London Borough of Barking & Dagenham

Information & Technology strategy 2021 - 2028

V1.0

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Contents

Background

In mid 2021, its generally accepted that in Local Government in the UK things will get even tougher than they already are with budgets constrained for the foreseeable future and service demands for Housing and Social care support in particular growing strongly as the socio-economic impact of the Covid Pandemic is felt across the Country. It's unclear at the time of writing how government proposals for increasing funding for health & Social care will impact on Local Government funding.

Alongside these socio-economic drivers, we need to consider a range of emerging risks, customer needs & expectations and technological opportunities to sustain and improve our support of the 211,000 residents of Barking & Dagenham and the increasing service demands created by the expected rapid growth in population over the next few years.

The Council has insourced its IT Service in 2020. A key driver for that decision is the need to be able to do things differently. As part of the service design activity leading up to the insource, engagement with stakeholders showed the Council needs the IT Service to be more attuned to business strategy, to help develop that strategy and to be more agile and responsive to emerging business needs, technological opportunities and cyber threats. At the same time, it is important to ensure that the Council is supported in making smart, timely investments in technology to support services to residents.

Over the past 5 years, technology in the Council has focussed on solid fundamentals, making the big moves that positioned B&D so well in 2020 for the technological needs of the Council to move rapidly to a high proportion of home working in a sustainable way with no compromise to security, quality of service or performance.

The next 5 years will use the sound base that we have built to allow us to shift the focus more towards business processes and applications, to drive out the benefits and gains inherent in the systems and data we hold to drive ongoing improvements to services through the application of new and existing technologies and leveraging the commercial and contractual lifecycles of our core applications wherever possible to accelerate those improvements.

Practically that means that over the next couple of years the IT service in the Council needs to pivot more towards creation and delivery of relevant digital services and solutions and become less focussed on the pure delivery of "Off the shelf" software and services. At the same time, it is vital to continue to deliver reliable high performance services.

The IT service will consider centralising some elements of core application support where there will be benefits from a greater mass of support resources, in other aspects, IT will need to act as a centre of expertise and support for a community of staff who need to use analytics and other tools to support their specific business areas, this is likely to become a more prevalent model in areas such as Analytics and Business intelligence, in the use of the increasingly sophisticated workflow capabilities emerging within Microsoft 365 and in the introduction of a Robotic Process Automation Capability to the Council.

There is also a need for the Technology function in the Council to become more involved in supporting Digital inclusion initiatives and activities such as Broadband provision, community hubs, digital training, delivery of full fibre services to our Council tenants.

Technology Vision

Over the next few years, a range of technology and societal developments are likely to impact on how technology is deployed and used within Local Government. Some of these are effectively committed, others we can have less certainty about how, how much and when they will impact on our delivery of services to our residents.

- Move towards online digital self service delivery to support our ambitions for the Self sufficient resilient citizen
- More insight into citizen needs especially in key areas such as adult care where both automation and IOT will play key roles
- Improved use of data and insights to drive service priorities, our data, primary source data such as ONS and OS and partner data across multi agencies
- Improvement in Digital participation and engagement including tackling inclusion through wider initiatives for connectivity, training and device availability.
- Working towards basic connectivity services at trivial cost to the resident to make it harder to become / be digitally excluded.
- Improved services to citizens through the Copper telephone services switch off in 2025, need to make sure the digital divide narrows as a result rather than widens
- Low net carbon emissions from our IT providers increasingly important as part of tackling the climate emergency
- Starting to work with telecoms providers as well as energy providers to drive towards a low carbon borough, particularly where we have opportunities for large area developments such as markets and film studios where the opportunities for large scale solar energy are significant to bringing the Borough carbon footprint down.
- AI & ML will begin to impact on style of delivery
- Hyper automation of services is an ongoing growth area, it's not clear yet to what degree this movement will affect delivery of Council services.
- Changes in citizen digital identity provision offer opportunities for service efficiencies where identity is important.

Change in working styles and how the dispersed working will impact on our use of technology longer term.

I&T strategic themes

The I&T strategy has sections on a wide range of technology areas but focuses on 4 specific themes for improvement and development,

Theme 1 Citizen interaction

There is a strong need to continue to improve the technology offer for the ways that Citizens interact with the Council to improve both experience and efficiency of services. Often this improvement is towards Digital presentation of services to the Citizen alongside internal re-working and re-design of business processes and the way that the Citizen needs interact with the Core systems.

Theme 2: Employee interaction & tools

The Council, in common with all other UK local authorities, is highly dependent on a number of specialist applications and associated data sets to support its services. The strongly commercialised model adopted by Barking & Dagenham Council with its eco-structure of partner organisations means that in some areas, particularly around the interfaces between Council and partner systems and workflows, there is a need to be able to work outside of the normal operational silos that these systems are designed around.

There is a parallel need to improve business processes that support service delivery but don't interact directly with the Citizen. This Employee experience is critical to efficient internal working within the Council.

In some cases, this combination of needs may lead to design decisions where the Council moves away from the more traditional Local Government focussed business applications and towards products more typically used in other sectors. Some of the technology options mentioned in Theme 3 (workflow) are likely to be important to delivering the required agility in business systems.

For some of our enterprise services such as ERP and Microsoft Office in particular, the nature of the services provided means that they change and evolve in small but frequent increments and as a consequence continually present opportunities to evolve, change and improve business processes using the tools. For this reason, the I&T service will need to increase the resource available for staff training and for driving benefits realisation from the products.

A key part of this theme is to maintain and extend our capability and support for staff to work from anywhere they need to in support of the Council's dispersed working strategy.

Theme 3: Workflow, efficiency & Automation

Much of the work carried out within the Council involve decision making workflows. Service Blocks are clear that a degree of process automation will enable the Council to realise better service efficiency. The Council has held off investing in this area previously pending a number of core system replacements that fundamentally change many of the candidate processes for automation.

Through the period 2021 to 2026 we expect to be going through continuous improvement and development iterations in most core systems and the services they support. The Council will invest in tools and capability to achieve service workflow efficiencies as part of this continuous improvement journey. These tools will include Robotic Process Automation (RPA), internal Customer Relationship Management (CRM) type solutions to improve workflow and management of performance of internal services, Low-Code development tools for areas where small internally developed and implemented applications are the most cost effective ways to deliver business capability.

Theme 4: Analytics & Business intelligence (ABI)

LBBD is always working in a number of areas around the way we use data and analytics to improve services. This work has clarified to the Council that it needs to embrace new tools and create capability to make better use of the data we have access to.

There is an emerging and increasing demand for data driven insights to drive service efficiency improvements and minimise demand for services, in some cases we anticipate the need being met by niche tools from highly specialized suppliers, in others, the need will be addressed by building capacity to enhance systems reporting combined with systems and data integration to enhance the quality of the data we hold.

Over time, this will inevitably lead us further into the use of Artificial intelligence (AI) and Machine Learning. Residents of Barking & Dagenham may be concerned or alarmed at the introduction of such technology. To balance this, the Council will continue to develop and further enhance its data ethics framework to ensure that we are able to coherently explain and justify our use of these tools.

The need for an Information & Technology Strategy

The Council has a well articulated overarching Business strategy set out in its 2020 vision. Most Council services and work have a critical dependency on the availability of information and the systems that are used to manage that information. This document sets out how the Information & Technology assets in the Council will be provided, developed, and evolve to support the Council's strategic vision.

Engagement with Council services shows that the improved use of information to understand service performance and citizen needs is key to continuing to improve the Council's service performance. To do this we need to evolve new capabilities as well as to reliably deliver existing services.

It is Important to have an articulated I&T strategy that can inform and in turn be informed and evolve to meet the Councils Business and strategic planning over time.

Scope of the Information & Technology Strategy

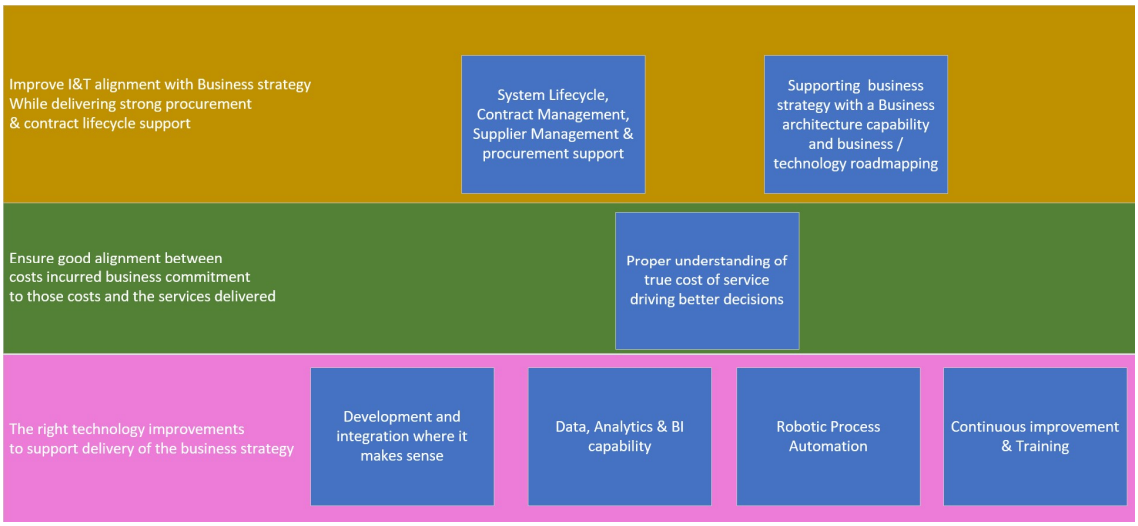
This I&T strategy supports that overarching business strategy for the Council as well as the individual strategic plans of the Council's internal Service Blocks and its external partners where the Council provides all or part of the IT service.

It encompasses all aspects of Information and Technology within the Council including activity that is in many organisations, branded as Digital. There is no separate discrete Digital strategy although there is a discrete digital customer experience strategy that compliments the I&T strategy and is much more focussed on the direct customer experiences provided to the Council's residents.

The horizon for the strategy is 7 years and it is intended that it will be reviewed / updated Bi-annually.

I&T service capabilities that will feel significantly different as the strategy rolls out

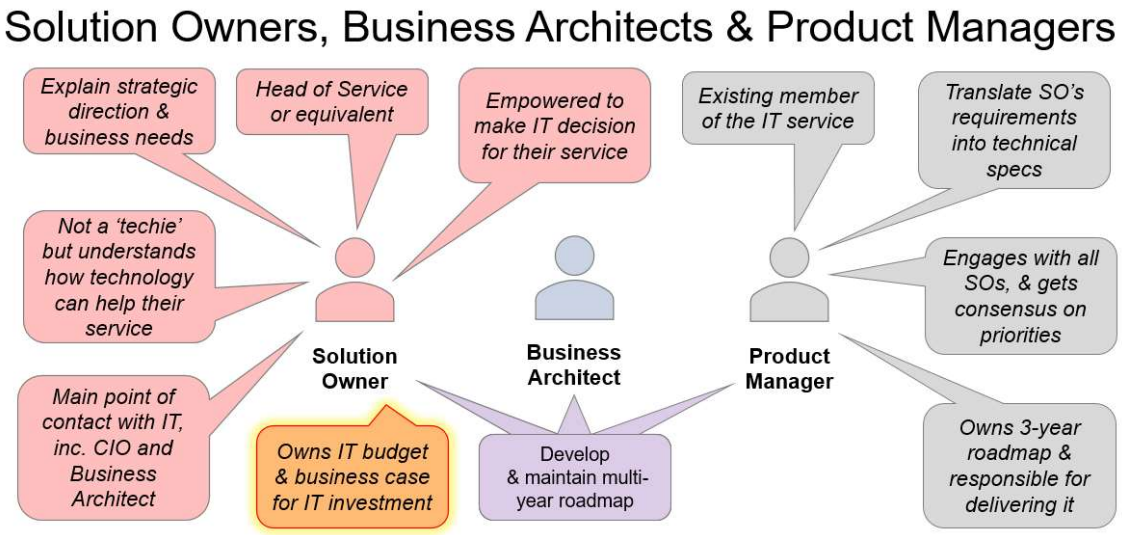
The diagram below sets out key areas that will change the customer I&T service for the Council.



Approach to aligning I&T strategy to Service Block and Partner strategic plans

The Council is structured as a number of service blocks providing services through a commissioned mix of in house and partner delivered services. The I&T strategy has to provide for this complex and dynamic mix of service sourcing and provision of supporting technology services.

The Council's IT business model uses a business architecture function to bring the I&T service delivery in line with business strategy. This is achieved through a technology Road Mapping process where the Business Architecture function in I&T works closely with defined business stakeholders (Solution Owners) defining the future desired state of I&T systems to best align with Business strategy with Product family Managers within I&T responsible for the delivery of the agreed vision.



The Roadmap methodology adopted is new to the Council and is used to map out short term (1 year) detailed technology change calendars alongside longer term (3-5 year) options for the use of technology to support business strategy. It allows us to maximise the available capabilities across business service blocks, to align the natural technology and contract lifecycles of systems and to recognise when newer capabilities need to be introduced and older systems retired.

The roadmap process forces the I&T function and service blocks to carefully consider the true cost and utility of systems, it allows better understanding of costs and need for investment over time on a per service, per application basis and allows I&T investment in systems, services and resources to be firmly aligned with business strategy and avoid unnecessary, abortive, or duplicate investment, saving the Council money.

System Lifecycle, Contract Management, Supplier Management and procurement support

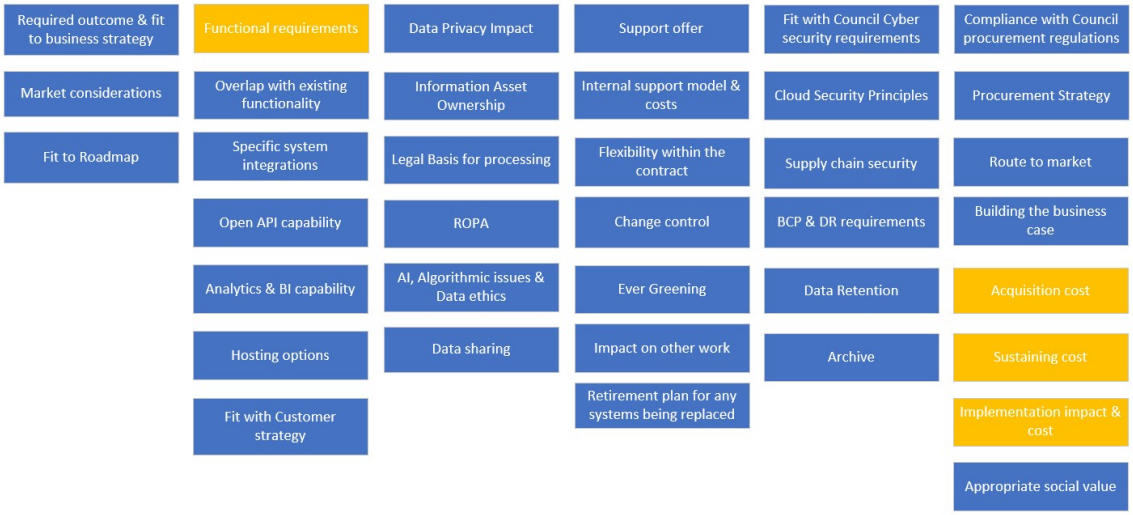
These all link closely with the work to support business strategy and delivery of the technology roadmaps. There are a wide range of factors that mean that procuring technology heavy services and managing the contracts arising is a specialist area.

The Technology infrastructure used by the Council is complex, strongly interdependent, mission critical and continually evolving as the Council seeks to optimise the services to B&D residents.

This means across the Council that there are hundreds of technology contracts in place at any given time ranging from straightforward purchases of equipment for end users through to complex platform services contracts. The typical contract lifecycle for a technology product or service within the Council is between 2 and 5 years.

The marketplace is continually evolving and the great product or service we procure today may not be the best option in 3-4 years, typically the planning horizon for a supplier or solution change at the end of a contract is 2 years or more out.

Procuring technology solutions today is a complex business. These are the main considerations before we even go out to market.



Getting the procurement and contract lifecycle aligned with Business strategy and other key Council strategies (Customer, workforce etc) is key to ensuring that the Council gets the best possible outcome from pure technology procurements and procurements with a heavy technology dependency.

Given that the complex set of dependencies in the diagram need to be considered as well as the Council and general public sector procurement rules and the need to achieve compliance alongside delivering best value and the need to maintain business composability and agility, it is apparent that we have a need to add a Technology Procurement & Contract Management specialism to the I&T team to work closely with the corporate procurement team.

I&T Capabilities

Staff Training product development and continuous improvement

Technology training across the Council is often strongly connected to major implementation and change projects. The current training model is built around the major implementations of technology and the business change projects that accompany them. Projects usually produce re-useable training materials, but these are not well maintained.

Modern systems, especially fully hosted and cloud based systems and platforms (Most of the Council's portfolio) follow an agile "ever green" approach where products are continually upgraded and improved over time with customers having little control over the upgrade cycle and when changes hit the business. This sounds chaotic but is usually beneficial. The approach ensures that the Council is less likely to end up with Legacy systems with poor development and support and reflects the way software is developed by vendors and delivered. There is a challenge in that we have multiple software vendors continually improving their product offers and adding new functionality. We don't currently have the resource to be able to assess these changes as opportunities and establish which should be prioritised and implemented rapidly vs the ones that in our context can stay on the shelf or be available but not highlighted or specifically trained.

As mentioned elsewhere in this strategy, the Council like most other organisations needs to be able to flex the use of its I&T systems to deliver digital experiences to staff that support the required target operating models, this composable approach means that implementation project based

training materials can become unfit for purpose much more rapidly than has historically been the case. For staff in established roles, these incremental changes to their digital experience can be almost invisible over time, however when re-training or training of new staff is needed, this can be problematic.

Overall, this means that we need to consider on a continuous basis how to assess, prioritise, implement, and train for these much more fluid digital experiences. Practically this means adding resource and capability to assess the changes, make best use of the opportunities, develop and deliver appropriate training materials as well as maintaining the self-training materials for the technology stack in good order.

Development Resource & Capability

The Council's IT service has for many years bought rather than built systems. Over the past number of years in common with industry practice and the trend toward customer centric digital services and thinking, the balance has moved slightly towards in house development where appropriate.

The need for in house development capability has been met via individual projects but its now clear that there will be an ongoing need for capability to deliver and sustain services where some or even most of the development and integration is done directly or managed by the Council. Current relevant examples include:

- Re-implementation of the Council's Integration platform
- Digital Customer Ambition Platform (DCAP)
- Replacement of internal services such as the HR service desk
- Other key systems implementations such as ERP
- Robotic Process Automation
- ABI (Analytics and Business Intelligence)

Resourcing for this work will be a critical capability for the I&T service to be successful. It's intended that the resources will be a hybrid blend of third party resources contracted via the standard procurement processes and an appropriate mix of short term contract resource with increases in permanent headcount where the business case is made for such long term commitment.

These are all technologies where we can take the opportunities to upskill existing staff and to bring in new staff via modern apprenticeships and similar schemes.

Financial Considerations

Move from Capital to Revenue

For a number of years now the IT & Digital world has been moving away from capital projects towards pay as you go models that reduce the need for upfront capital investment but increase the ongoing revenue cost. Across the industry, these pay as you go models (IAAS, PAAS, SAAS) are increasingly compelling either because they offer superior functionality, lower TCO or in an increasing number of cases, there is no other way to access the technology.

As the Council has refreshed it's infrastructure services, we have largely adopted this model where it's applicable and it is embedded in our costs.

The next generation of line of business applications will follow the same direction for the same reasons ie: compelling functionality, better value, evergreen, Sole viable option etc.

Previously for line of business applications, year on year cost has been based on support with large acquisitions & upgrades funded from Capital. Going forward, this move to SAAS being revenue funded means that the Capital need is reduced (implementation cost only). the former portion of capital that would be used to acquire software licences and infrastructure is now spread across the contract lifetime in a per unit subscription model.

The practical outcome of this is that the ongoing year on year revenue cost for IT services to the Council will increase, the cost will be minimised wherever possible but a significant above inflation increase from today's revenue cost point is possible.

Technology Programmes for longer lived, evolving systems

The areas listed below should all be treated by the Council as ongoing programmes of work and development with scope being defined and funded annually.

Technology Programme Principles

- These are all multi-year pieces of work that will require the Council to iterate and continually improve on the current or initial delivered solution.
- The work may be led & delivered by IT, Service Blocks, Partners, suppliers or a combination.
- It is not possible at the inception of the programme to fully predict the longer-term needs from these programmes.
- The requirement for the solutions provided by these programmes is subject to change over time but unlikely to disappear in the foreseeable future.
- The ongoing programmes must include the need for future replacement of current solutions ie: service the full lifecycles of products including de-commissioning.
- The implementation of the programmes will be governed through Customer & Information Board
- The IT Roadmapping, Business architecture and CIO function through IGG and TDA groups will provide a commissioning challenge capability to the ongoing delivery of the programmes ie: Examine fitness for purpose, fit to strategy and, security, compliance and value

Technology Programmes

- ERP
    - The ERP programme will deliver a minimum viable solution to the Council in late 2021. The Council will then need to iteratively improve and tune this solution throughout it's lifecycle to ensure that the maximum benefit is delivered.
- Housing systems solution, link to repairs service
    - The Housing systems solution for the Council is complex with a need to service Myplace and Reside properties, an external repairs partner and with collections occurring outside of the primary service block with responsibility for homes. This complex ecosystem of solutions will need an ongoing programme of development to ensure that it delivers good functionality and value to the Council.
- Care & Support
    - Care and support use a complex set of applications to deliver services and to share data with external partners. There is resource in place to provide support fo the applications, however there is no excess capacity for strategic improvement of the technology solution over time.
- MyB&D
    - The Council's My Account portal incorporating web and contact centre interactions with Council services as well as managing customer identity / logon and the integration with our line of business systems. This system is purely cloud based,

created by the Council and will continue to be developed and improved as the Council's service delivery models and back end systems continue to evolve.

- Big Data & ABI
    - The Council has a number of needs from a big data platform and ABD (Analytics and Business intelligence) strategy. The immediate need is a platform to manage the ongoing needs for access to data from superceded corporate systems (Oracle 11 & Oracle 12) longer term this technology will support us in enhancing data quality across systems, reporting, understanding citizen needs etc. There will be an ongoing need to develop, integrate and manage the data platform as well as providing a centre of expertise for ABI to support staff training in this area and ensure that the Council makes best use of it's data.
- Automation
    - The Council are reviewing opportunities for cost reduction and /or service improvements through the use of automation tools. This will be an ongoing piece of work that will continually develop new business cases and automations as well as support existing ones.
- Website
    - The Council website will need continual support an maintenance as we develop and improve our customer journeys. Typically corporate websites go through major rebuilds every few years but there is an ongoing need to maintain and develpop sites, particularly where they act as a key entry into the services provided by an organisation.
- Employee Experience
    - There is a need to provide ongoing development of the Council's employee experience tools whether that is part of the ERP system, Microsoft 365, the Council Intranet or another key application. As technology products are developed, and released by their vendors, we need to be able to keep up and adopt the changes that support the Council's needs whilst discarding or de-emphasizing the ones that don't whilst keeping the appropriate training materials up to date and where necessary delivering training to new starters.
- Cyber
    - Cyber risks are now seen as one of the top national security risks to the UK. The risks are rapidly evolving ad our response neds to keep up. At the moment we use security by design principles to be able to keep up with the risks. Ongoing mitigation of these risks may cause unplanned requirements for significant investment in cyber security tools and services. It is likely to demand investment in tools, services staff and time with services to develop, test and train on cyber security and business continuity planning.

Big Projects

The Projects listed below are relatively high cost, complexity and risk but are essentially stand alone or on long cycles, do not warrant being programmes in their own right and should be funded as one off periodic pieces of work.

- Support & collections application
    - New software for the support & Collections service
- Network replacement (Lan & Wan)
    - Replacement of end of life network equipment in Council buildings.

    - Replacement of the Council MPLS network connections with more cost effective, higher bandwidth services.
- Laptop replacement
    - The Councils laptops are now quite old and will need to be replace probably no later than Calendar year 2023. This will be a complex piece of work costing over £2M but is still a project delivered in a single year.
- Entity split
    - The Council's Traded Entity partners who receive a service from IT are all still on the Council's network and infrastructure. This presents some risks around:
    - Business agility for the traded entity
    - Cyber risk for both sides
    - Lack of clear information governance, risk of inadvertent or inappropriate data sharing.
    - Licencing risks (Our licences are at local gov discounted levels, commercial prices are higher.

  This means that we need a project to create separate domains for the traded entities and to migrate them.

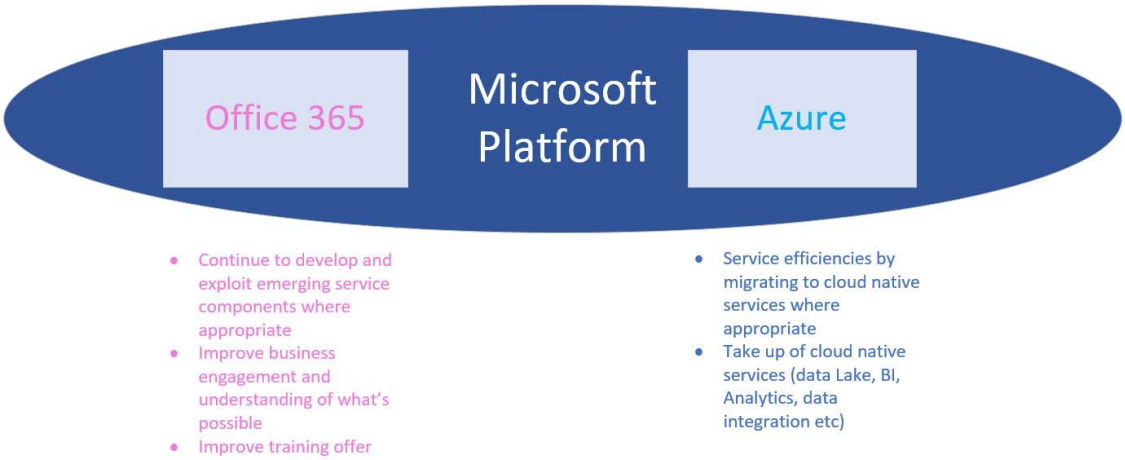
- Entity support

    - The Council has established a number of commercial entities that are owned by but separate from the Council. In some cases the Council commissions services from entities and in others, it provides support services to the entities.
    - There is a clear need for more direct support for the entities in achieving their digital service ambitions and meeting their regulatory needs. There are current gaps in the ability to transition new build property programmes into asset management & maintenance phases with all the digital assets available from construction being fully used to manage the assets.

- Enforcement system (Flare replacement)
    - The current solution is at the end of it's support life and a change to a replacement product is required. The vendor has a good candidate replacement but carrying out a proper assessment of needs and testing the market is the best way to assure that we get the right solution and best value for the Council. This is a significant piece of work for 2021 through calendar 2022 but may not need to be a programme beyond that point.

Core systems

Microsoft Platform



The Council implemented Microsoft 365 in 2016 and has improved and developed its adoption of the platform ever since

The technology has been and continues to be transformative with our early adoption of MS Teams positioning the Council well to deal with the need for dispersed working and social distancing during the 2020 Pandemic.

The large scale migration of data into MS Teams has enabled the Council to migrate to public cloud (Microsoft Azure) for other parts of its infrastructure with relatively low cost and disruption.

Going forward, we expect to leverage the platform in a number of ways to deliver benefits to services, in particular Microsoft have and continue to put considerable work into tools to enhance collaboration with external partner organisations, improve workflows, enhance data storage and the ways it can be consumed and some innovative technology to enhance documents with automatically generated linkage to supporting information.

All of these technologies are relevant to Council operations, all come with significant benefits and risks meaning that we need to adopt them with a degree of care and focus. This means that we will need to partner externally for deep knowledge on this complex, key product area but that we will also enhance our ability and capacity to work with Council service blocks to use the technology smartly and mitigate technical and operational risks. Practically, this means improving the training, advice and guidance on offer from the I&T service in support of office 365.

The Council expects Microsoft 365 to be a core component of its I&T strategy for the foreseeable future.

Finance, HR, Procurement & Payroll systems

The Council has used Oracle E-Business for this function for many years with Version 11 to 12 being delivered as part of the implementation of One Oracle. The Council has been in a shared service arrangement with Brent Council since 2018 to host the shared platform for both Councils. Brent have decided to move away from the current shared service. LBBD have decided that remaining with the on-premise version of E-Business would not be the best option for the Council and have gone through an extensive procurement exercise to establish the best fit set of products / services for our needs.

The Council has awarded a 5 year contract to Moore Insight for provision of replacement business functionality for our existing Oracle E-Business shared service with Brent Council.

The solution consists of Midland HR & Payroll system (iTrent) and Advanced E5 Finance system, both delivered on a hosted SAAS (Software as a Service) basis. Both systems have been successfully implemented in multiple local authorities.

The capability will be delivered in an agile way with a minimum viable product being delivered in December 2021.

Recruitment and Learning Management

As a result of contractual and technology lifecycles, It would not deliver best value and would increase project risk within the ERP project to renew some of the support products, particularly, recruitment, onboarding and Learning management platforms as part of the ERP roll out. This means that the Council expects to continue to use our current Recruitment, onboarding and Learning management platforms until at least the end of 2022.

Continuous Improvement

From the end of 2021 onward, the ERP solution will embark on an ongoing programme of continuous improvement projects. These will be designed to achieve maximum business benefit from the incremental improvements and efficiencies achieved.

Over time and as the new systems settle into place, we expect to identify longer term business efficiencies and benefits that can be derived incrementally using workflow and automation tools alongside the core ERP project. These improvements will be included in the annual ERP improvement projects.

Social Care Systems

Liquid Logic has been the Council's main electronic social care system since 2018 and comprises three systems Childrens Social Care, Adults Social Care, Early Help, and two linked ContrOCC finance systems (Integrated with LAS and LCS Liquidlogic Systems)

The LiquidLogic contract is expected to run for a further 2 years minimum with replacement options being considered during that time.

Alongside continual maintenance and improvement to Liquid Logic, there is an ecosystem of supporting applications (including Childview, Tribal Early Help) which are continually supported and maintained. These systems will all be considered as part of the scope for any re-procurement or extension.

Homes & Assets

Homes and Asset management incorporates two main systems: K2 that support Corporate, commercial and education property asset and Capita Open – that supports the Council's social housing properties including HRA and Reside.

The housing system environment within the Council is complex with involvement from 2 Council service blocks and 2 external companies in direct service delivery activity, this complexity is reflected in the make-up of the systems that support the housing function.

The Council's Primary Housing Management software is Capita Open which include Open Housing (landlord and leaseholder service functions) Open Assets, Open Contractor including repairs and maintenance and the self-service digital modules

This system is primarily used by My Place and Community Solutions (Comsol) service blocks within the Council for delivery of services, with Reside also using some of the functionality for their Affordable housing schemes.

The Housing repairs service for the Council is provided by BDTP who are an external company and use their own repairs management software.

Key activities in this area for the next year are in 5 areas:

1. Improve the integration between the BDTP Housing repairs system, the Council's Housing Management system and to ensure that LBBD housing tenants benefit from both telephony and online booking, payment where needed and progress updates of their repairs. Following the DCAP project going live in September (see Customer Portal section), the implementation of an online repair diagnostic and booking function will be key deliverables in the next phase of DCAP.
2. Implement the Open Housing system to manage leaseholder service charges
3. Review and evaluate options for a corporate compliance system – currently all held on spreadsheets, (there is an option to move to Capita One Assets compliance module if it meets the requirements)
4. Review the options to move to a single asset management database eg a) evaluate if properties on K2 be consolidated onto the Open Capita Asset management system to create a single asset management system; b) hold commercial and private sector housing properties on a stand-alone system that caters to the requirements of those types of properties that would need to be procured.
5. The Council's contract with Capita for the Capita open Housing system ends in 2023, with an option to extend to Dec 2025. In the same timeframe, Capita Open Housing is likely to be upgraded by Capita to a cloud compatible version of their software Capita One in 2022, that will then enable forward conversion to their cloud solution in due course. It is important for the Council to consider whether it should simply adopt the cloud based version of Capita One or whether there are better options in the marketplace. Given the product and contract lifecycles set out above, this decision should be made no later than January 2022.

Public Realm

The main application used is Confirm, this is a cloud based application that covers the majority of Public Realm services ie Gullies , Park, Tress and Ground Maintenance, Street Cleansing, Highways and Street-works, Waste management customer enquiries.

A new Waste management system is being procured providing in-cab technology to give real-time information on missed collections and service delivery performance management, as well as functionality to provide the commercially traded Trade Waste service, including billing and contracts.

These systems are supported by specialist systems for fleet management, cemeteries and street lighting. The overall aim is to provide seamless digital customer journeys for service requests (eg fly tipping) from customer contact to fulfilment of the request. The service is moving to all operatives being able to access information via mobile handheld devices and paperless working. The cemetery system is on an end of life database and needs a review of options.

The GIS service which is often embedded in planning teams is now held within the Council by My Place as part of their Public Realm portfolio although the outputs of the GIS service are important to a number of areas within the Council in support of service delivery.

The Council will develop the internal service offer around mapping and Geospatial data services seeking to make the best use of data available to us from external sources such as Ordnance Survey (OS) as well as our GIS systems.

Planning

The planning service for the Council is delivered by Be-First Ltd. They have over the past year migrated to a new cloud hosted planning system (Idox Tascomi) which has simplified the Council's hosting and support arrangements and reduced costs. Its anticipated that this solution will be in place for a number of years.

Enforcement

This area includes the regulatory services and community safety. For these areas, the long standing Civica APP product is the principle application which is at the end of its support lifespan and needs to be replaced. There are several Candidate products in the marketplace and a procurement will be required to update this to a more modern product.

Parking services have recently implemented new systems. These are expected to run for at least 3 years.

R&B

The Revenues and Benefits function has used the Capita Academy product for many years. Whilst the core product meets the Council's needs, there are clear opportunities to implement a degree of process automation and achieve efficiencies that may reduce operating costs in the area. There is a focus to look at improvement to on-line benefit advice and guidance, and also the All-Pay contract needs to be reviewed

A scoping study around Robotic Process Automation (RPA) will investigate the opportunities during mid 2021 with a view to commence implementation during the financial year.

Community Solutions

The Council has a range of services that support individuals through various circumstances.

Universal services provide services via libraries and the community hubs, providing information, advice and guidance. Contact and case management information is to be

reviewed linking to the key line of business systems and where integration is required. Self-service and assisted service face to face is the principle method of delivering the services.

Work and skills - the main focus for systems is to focus more on information and analytics and assurance on service outcomes and on the customer experience.

Welfare and collections – the main systems are the above mentioned Revenues and Benefits system, and the Open Housing system for rent collection.

Adult Intake - for services for adults with increasing need for support with physical and mental health disabilities the service uses Liquidlogic.

Support - use a number of systems including Civica Homelessess, Capita Open Housing and links to Liquidlogic, as well as links to Enforcement for Anti-social behaviour. The requirements for this area needs to be considered when the main systems are being re-procured.

Customer Portal

The Council has used the Agilisys Digital platform since 2014 as its customer facing portal. In late 2018, the vendor signalled that the end of support life for the product in its current form would be in 2021 and as a result, the Council has reviewed the available options in the market and following that assessment decided to develop its own platform utilising a cloud based CRM. The project is called Digital Customer Ambition Project (DCAP) within the Council the project is expected to go live in September 2021 and delivers the following…

- Citizen portal to interact with Council services (direct replacement functionality for Agilisys Digital)
- Improved view of Citizen interaction with services across channels (web or contact centre)
- Citizen identity service to securely manage logins to the services
- Improved service performance analytics
- Integration with the Council's Cloud Contact centre telephony system
- New Knowledge management system
- Improved citizen data to aid service delivery

DCAP is intended to be a foundation set of services to replace Agilisys Digital and critically, through Continuous development and improvements, to enable the Council to better provide high quality Digital services to Citizens of Barking & Dagenham across future phases.

Some of the key line of business systems have portals that are being developed to provide more specialist functions – for example Open Housing Access portal for tenants and leaseholders; the Care and Support Liquidlogic system, and for Council and Reside Housing repairs an on-line repairs portal. These will where possible be integrated with DCAP over time to ensure seamless customer journeys.

Workflow and automation of internal tasks

The need for high levels of efficiency in higher volume or complex internal processes will require the Council to build capability and capacity to automate these processes. Higher levels of automation and standardisation are intended to bring cost savings for back-office services and driving either outright cost reduction or the ability to focus resource more on direct resident service delivery.

There are a range of technology tools typically directed at this type of business challenge, Low code application development platforms (a form of visual software development), Robotic Process Automation tools, Chatbots, some type of AI tools, Integration platforms etc.

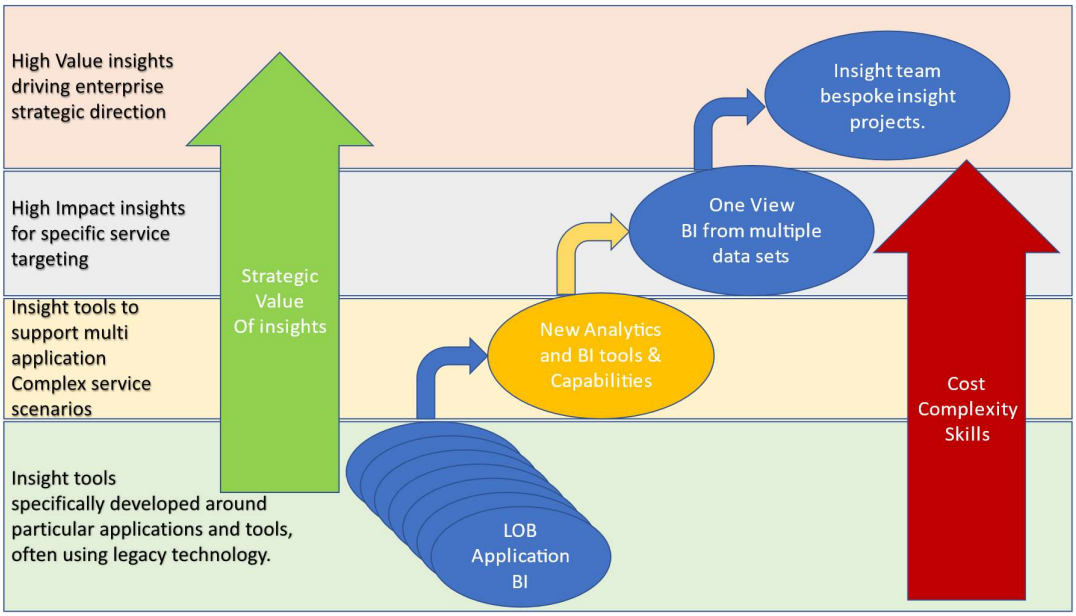
There are challenges in this type of work with many midsize enterprises reporting that it is difficult to get actual cash savings from this type of automation. Typically, such process automation releases staff time in many people but often not is a way that staffing levels can be reduced and direct cost savings taken. For this reason, this area needs to be approached with a degree of caution and real clarity needs to exist around business cases before investments are made.

Improved use of data, Analytics and Business Intelligence tools and methods (ABI) to better understand service needs and performance

The Council uses a range of data analysis tools in different areas. Most of the Council's core line of business applications come with some sort of reporting and Business intelligence capability. These tools all assume their particular application to be the centre and everything else to be peripheral and overall, this leads to our ABI capability being strongly siloed with islands of insight and no consistent tools or processes to join them together.

Where data is being analysed across these boundaries, this is most often using very specialist 3rd party services such as One View. Or using our Insight team to carry out point in time snapshot Insight projects to provide the required information at a point in time. Both of these approaches are extremely powerful and produce high quality proven insights for their target areas, however they have relatively high cost and have significant lead times for change / implementation.

The diagram below shows the proposed hierarchy of ABI tools within the organisation with the second layer being the proposed additional element. Over time, it is expected that the new tools will expand in scope of application to strongly overlap the layers above and below in the diagram driving out incompatibility, cost and complexity whilst adding business agility as a result of improved analytics output.



The proposed change to ABI approach and the associated benefits cannot be achieved by simply implementing some tools, this requires teams throughout the Council to build local expertise with IT providing a central support and expertise function.

Data Lake

Although ABI tools are capable of using data from many sources, it's also important to have a set of repositories for data that is derived from multiple sources or in some cases contains archival data for systems that the Council chooses to retire. Historically, that has been achieved using read only copies of applications and various methods of holding the required data. The Council will implement a standardised set of tools for holding and managing these disparate data sources.

During calendar year 2021, the I&T team will carry out an options appraisal for the use of data lake and BI tools to replace the legacy reporting capability of Oracle R11 which has been a read only data & reporting source since 2014. If successful, the technology will be built out as part of a wider data strategy for Archive reporting and cross functional BI capability.

IT Infrastructure

Background

The Council has now completed its migration from On Premise to Private cloud infrastructure in 2016/2017 and onward from Private Cloud to Public Cloud in late 2020. In parallel we have since 2016 been implementing a technology procurement approach that leans strongly towards Software as a Service and Platform as a Service (SaaS and PaaS) as our first choice with other options only being considered if there is a strong technical, security or cost driver to do so.

The benefits of this approach are clear with suppliers taking on the role of keeping the software services and platforms “ever green” with new functionality and improvements being delivered all the time.

It does however mean that the workload in IT is moving away from maintaining servers and networks and more towards integrating and managing disparate Hosted, Software as a Service (SaaS) and Platform as a Service (PaaS) services. The Council still hosts applications, storage and network core in Public cloud Infrastructure as a Service (IaaS) to deliver the required business functionality. It is expected that we will need to continue to deliver a proportion of the Council’s applications, data, core network functions and identity provision in public cloud IaaS for the foreseeable future with SaaS / PaaS being considered at all refresh and renewal opportunities.

Edge Site Network refresh

Over the past few years, the Council has been moving towards a Cloud centric zero trust security model, the culmination of that work is to refresh the network which is now at the end of its support lifecycle.

We no longer operate trusted network environments within our buildings, we instead assume that partners and even citizens may be using the network to interact with services via the internet alongside staff who need to securely access key business systems holding sensitive customer information. This is achieved by fully encrypting all traffic from the Cloud based application all the way into the staff endpoint.

As a consequence we are able to make best use of modern commodity network and WiFi equipment rather than needing to work with more expensive premium brand equipment. This more commodity approach is expected to meet our needs for networking in Council sites for at least the next 7 – 10 years.

Over the next year, the Council will:

- Replace most of its wide area network with new higher capacity Internet connections.
- Refresh most of our building Lan and Wi-Fi infrastructure.

This fits well with our Cloud based infrastructure and the drive towards a dispersed workforce working across community hubs.

Public access Wi-Fi

The Council delivers a public access Wi-Fi service, primarily from the Barking Learning Centre and the Dagenham Library sites. The need and uses for this service have been changing for some time with users often bringing their own devices and wanting to use the Wi-Fi enabled safe, quiet spaces to accomplish what they need to do rather than the more historic need for devices, software, and internet connectivity. Dispersed working will see public Wi-Fi introduced in a number of new areas with capacity increases to the existing sites.

This will be delivered alongside the Edge site network refresh to ensure best synergy between the 2 projects.

Cyber security

The Council has worked hard over the past few years to eliminate many of the security vulnerabilities, cost and performance bottlenecks in traditional network architectures and security models with a modern Cloud Centric zero trust security model now being in place.

We have over that period improved Disaster Recovery and Business continuity arrangements and are today in a stronger position that we have been previously. There are however further improvements to make in this area to ensure that our preparedness is focussed on the right risks.

However, it is clear that the cyber security risks are rapidly evolving with Ransomware being a significant concern in 2021. I&T strategy will adapt to the threats as they emerge.

A key part of cyber defence is to ensure that all I&T systems are maintained up to date. This means that the Council cannot accept systems that are not maintained up to date, with security patches in particular being applied in a timely manner. This in turn makes it more expensive to maintain older more traditional systems and software than the modern SAAS cloud applications where such patching is dealt with as part of the service cost by the Vendor.

The pace of change in this space makes it unrealistic to predict what specific cyber security tools and applications we will be using across more than the next 2 years or so. The Council will continue to ensure that we have highly effective tools to provide a high level of cyber assurance within the Council.

At present, we and most or all Local government organisations carry out regular health-checks and remediate any findings as part of achieving our PSN accreditation annually as well as completing various other health-check activities with partner organisations. Given the enhanced threat levels and the impending retirement of the long standing PSN scheme, it is likely that a new scheme for local government will emerge over the next couple of years. That may be 'Cyber essentials +' or given the threat levels may be something more along the lines of the NCSC CAF (National Cyber Security Centre – Cyber Assessment Framework) scheme. Any of these decisions once made will generate a significant level of activity to achieve initial compliance both for ourselves and within our supply chains.

For obvious reasons, we will not publish any detail of our arrangements in this area although they are subject to multiple annual reviews and challenges both internally and externally via audit processes.

End user compute

PC fleet

The Council maintains an up-to-date fleet of Windows 10 devices for internal users of the I&T service. The mix is now in the order of 98% laptop with the remainder being either desktop devices for specific location based functions or public access machines in our Public Libraries and other locations. The service as part of the migration to cloud has implemented Windows Virtual Desktop (WVD) for delivery of applications with thick client software implementations driving specific performance needs requiring close proximity to the server functions for the applications.

Over the next 2 years we expect to finalise a delivery strategy for the next generation of endpoint devices making use of emerging Microsoft tools to achieve this in a flexible,

location independent way enabling us to deploy and maintain services cost effectively to a diverse, distributed workforce with little need for attendance in a corporate location for device related maintenance.

We expect the work to refresh the laptop fleet to run through Calendar year 2022 requiring significant Capital investment. The resulting fleet will have a maintenance life of 3-5 years with a further refresh to be considered around 2027. Part of that refresh will be consideration around the mix of endpoint devices. There are clearly some cases where a thin device working with Windows Virtual desktop may provide performance / cost benefits.

The Council IT service provides services to a number of Council partner organisations who will be invited to participate in the refresh.

Telephony

Mobile devices

The Council has recently re-let its mobile contract and uses a fleet of approximately 1500 android mobile phones. These are used for telephony, web access on the go and provide access to our Office 365 accounts and other applications using a secure application portal. The devices are being refreshed in early 2021 with previous supplier contracts naturally ending over the next 18 months or so.

Mobile communications continue to evolve rapidly and the current contract will be up for review in 2023 to ensure that the Council continues to receive good value.

Across the Council, the blend of staff using mobile devices is changing with less devices going to “office based” staff and more to field workers. This re-balancing will take a while to work through but has been shown to improve engagement with our front line field workers who have previously not been able to communicate digitally with the rest of the organisation.

Fixed line telephony

During 2020, the Council implemented cloud telephony services for all staff landline needs to ensure that our staff can work from anywhere regardless of the need for fixed line telephony which is now delivered directly to their windows laptops via the internet.

This service has proven to be capable, robust and meets service needs cost effectively. We continue to provide a telephony service to schools within the borough that have chosen to participate with them gaining the same advantages in flexibility and pricing.

The contract was let for an initial 3 years in 2020, we will review in 2022 as part of our contract management process. It is expected that telephony for the Council will be delivered using a service like this until at least 2026 and probably for longer but there is an expectation that traditional fixed line telephony will continue to reduce in volume over the years.

Contact Centre Telephony

During 2020, the Council implemented a fully cloud based contact centre telephony solution to meet the needs of the Council contact centre in improving reporting, efficiency and providing a fully flexible “work anywhere” capability.

The service was fully implemented in the spring of 2020. It has a breadth of capability including the ability for our agents to work from home using their corporate laptops and any reasonable modern broadband service. We expect to do further development with the

service through 2022 to integrate this capability with the complementary Customer Portal development being implemented by September 2021.

This service was procured on a 3 year contract and we anticipate needing this or a similar service for the next 10 years. The relatively short contract period gives us flexibility in terms of adopting more innovative solutions if they emerge or ensuring that we have best value from the current system at the renewal point.

Work from anywhere

Working through the Covid Pandemic and continuing to deliver services with a large proportion of the service working from home has shown the Council that there are significant benefits to adopting a dispersed working strategy ongoing with only work that must be done in corporate office buildings happening there.

From an I&T standpoint, our services are already configured to work in this style. Policies are being updated to ensure there are no security disadvantages from working in this way and that international working and working at significant distances from the Borough is managed appropriately.

The projects to deliver technology refresh of both site networks (including Wi-Fi) and end user compute will ned to consider the challenges of cost effectively maintaining personally issued devices in this dispersed model.

The Council has enabled BYOD on a limited basis for web and secure portal access to Office 365. It is possible to go further and allow BYOD access to business applications. Whilst the Council has the capability in a number of key areas, it is not proposed to deploy them as this would increase complexity and adversely impact security assurance levels.

Corporate buildings

Network and Wi-Fi coverage is dealt with in the network section of this strategy.

Other workspace specific capabilities such as AV (Audio Visual) equipment for shared meeting and collaboration spaces will be specified and piloted during the remainder of 2021 alongside the testing of different dispersed working scenarios.

IT Service Management

As part of the strategy to bring the I&T service in house, the Council is implementing a number of changes to the way the I&T service is delivered to the organisation.

Product based business engagement approach.

The I&T service organises all its services to the Council service blocks into a number of product families. Each product family has an assigned Product Manager who is usually a strong technical and support lead for the group of services encapsulated into the product family.

Some product families are tightly aligned with a particular service blocks, others across service blocks, Others are specifically intended to be offered to most or all users across the Council.

The Product Managers are supported in their alignment with and interaction with the Service blocks by a key "Solution Owner" role within each service block. They are further supported by a strategic alignment between I&T Management team members and specific Service Block Solution owners. The solution owners in effect work with the I&T service (Product Managers, Management team alignment and our Business Architecture team) to evolve and develop their I&T service need over time.

Business Architecture & I&T Roadmaps

To ensure that I&T Strategy aligns to business strategy, but that business strategy is fully informed around technology options, the Council is adopting an iterative road-mapping process to work between the business architecture function in the I&T service and the Service Block Solution owners, to make the best decisions around how I&T capabilities can best support Council services.

This approach allows the Council to better understand the Value and true cost of I&T investments across their full lifecycle, enables the Council to prioritize the best investments in technology to deliver the most critical business needs.

Cost allocated to consuming departments

Historically, the cost recovery / internal charging mechanism used within the Council has been a fairly arbitrary distribution of IT cost across departments. We are now building a comprehensive service cost model form a zero budget base to align charges for I&T service with where the cost is incurred. This has a number of beneficial effects but mainly it encourages service blocks to be frugal with I&T expenditure because they understand it better, it also helps us to align technology solutions to strategic needs having full sight of the true cost of ownership for any range of I&T services.

This approach also lets us provide fairly priced and cost-effective service services to our partners where it is beneficial to all for us to deliver the service.

IT service management tools

As part of building the new IT service, the I&T team have implemented a new IT service management tool (Fresh Service). This will form the basis of a continual improvement of IT service provision to all users. It is expected that it will integrate with the new HR recruitment and onboarding service during 2021 with continuous evolutionary improvements thereafter.

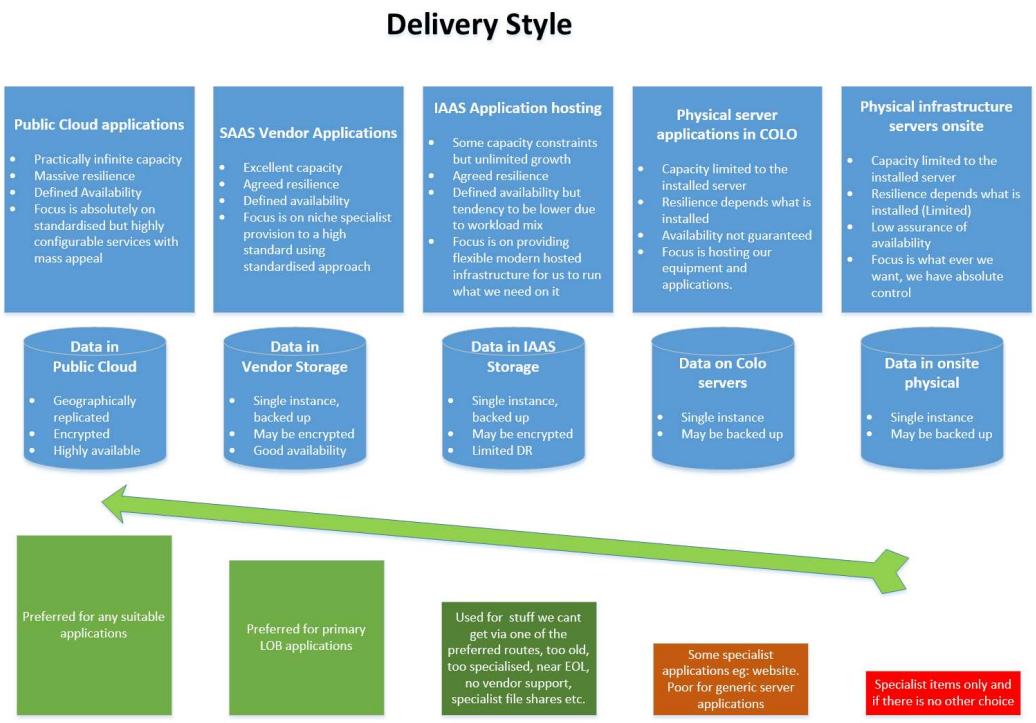
Appendix A: Cloud

Cloud

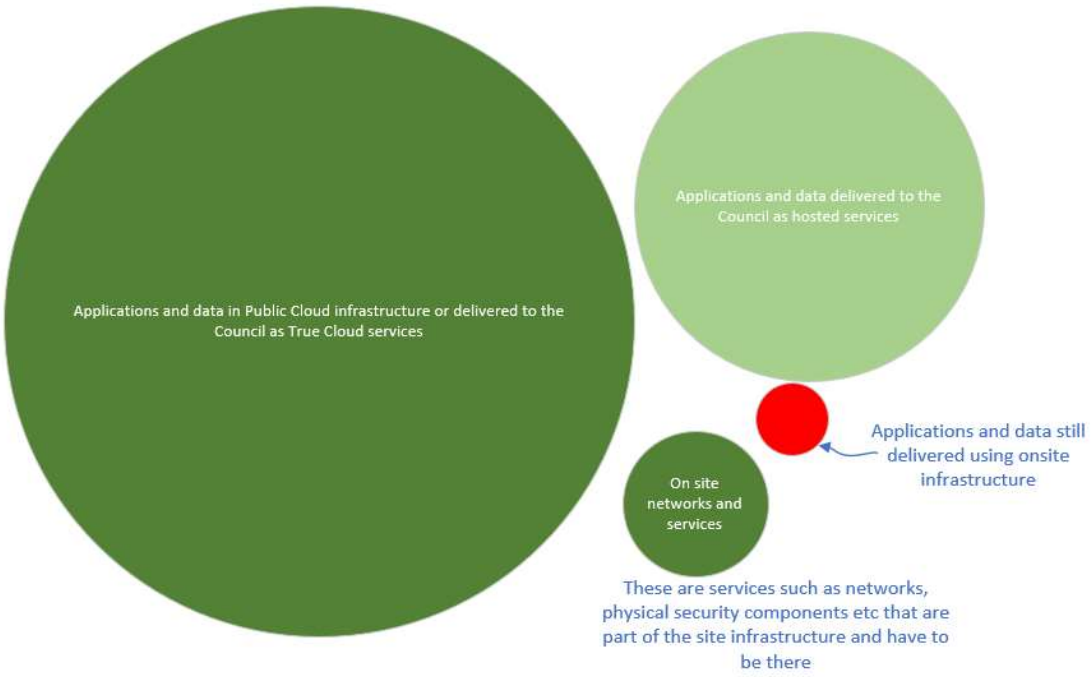
The strategy will mention Cloud in a number of places, it will not heavily focus on Cloud services or transition because this is already in place for most of our technology portfolio. Most applications, technology services and data are already cloud based in some shape or form. We will continue to leverage cloud services to improve our service provision and value for money with a continuation of our drive towards cloud native services, applications and platforms as services.

Our DCAP project for example is “born in the cloud” with no on premise dependencies.

The Council has moved consistently toward the Cloud since 2016 starting with the implementation of Offfice365 and migrating to Agilisys private cloud in 2016/17 with a hierarchy of delivery preference guiding all major technology procurement decisions over that time.



The Core of the Council technology infrastructure is now fully in the cloud following the migration from Agilisys private Cloud to Microsoft public cloud completed in November 2020. The diagram below illustrates the relative volumes of services and systems in each category today.



This work has been done to achieve a specific set of outcomes:

1. Reduced complexity and risk in acquisition, implementation, and support
2. Increased reliability
3. Improved agility and standardisation
4. Secure and up to date
5. Best Value for money
6. Improved ways of working