Avon and Somerset Constabulary

Information and Communication Technology Strategy

Final Version

Contents

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Executive summary

Avon and Somerset Constabulary is one of the largest police force areas in England and Wales. It covers an area of around 1,855 square miles and is home to a growing and diversifying population of around 1.6 million people. Recent Constabulary forecasts anticipate a £47m funding gap by the end of 2017/18 that will need to be addressed primarily through the delivery of efficiency savings, many of which will require technology enablement. Continuing to increase performance while reducing costs will require a significant change in the way the Constabulary operates today and there are a set of programmes currently underway within the change portfolio seeking to address these challenges.

This ICT strategy presents a vision for the future state of ICT that supports the priorities of the Avon and Somerset Police Crime Commissioner as per the Avon and Somerset Police and Crime plan 2013-17 and the strategic ambitions of the Avon and Somerset Constabulary's Chief Constable, Nick Gargan. It outlines a five-year roadmap to achieving these objectives, informing the budgetary decisions that will need to be made over that period.

In summary, the ICT strategy and investment will enable front-line police officers and staff to better carry out their roles and be more effective and efficient in delivering to victims and serving the public. The proposed initiatives to achieve the vision have been assessed against the current change portfolio to ensure alignment to the business and operational strategy of the Constabulary.

The ICT vision recognises that these additional needs are complementary to the operational requirements embedded within the policing mission and vision, values and principles of the Constabulary. Each principle has been expanded into a set of ICT needs, which are presented in the diagram below.

- Police officers and staff will have role-based access to information to ensure they can operate in an effective and efficient manner
- Information will be easily captured, read and updated using mobile devices when operating remotely from built up and rural locations across ASC, including digital evidence

- ASC will manage contact with the public in a unified manner across online, mobile, voice and face to face channels, tailoring the service dependant on individual's contact history and status
- There will be a focus on victims and vulnerable persons, who will be supported through whichever contact method is most appropriate for that individual at that time
- ASC will maintain a presence on social media channels, using them as sources of feedback such as trending and sentient analysis and to issue public communications when appropriate

- ASC will use the knowledge it has to understand and predict people and location risks and possible events
- Information will be available to everyone that needs and has authorisation to access it in real-time to enable effective and efficient delivery of policing services
- Data will be treated as an asset, captured once, reused, maintained and electronically stored wherever possible
- Data quality will be embedded in system design, automated validation and cross referencing

- ICT investment will focus on areas of biggest policing benefit, balancing the need to realise cost efficiencies and cost synergies within a limited budget
- New ICT systems and upgrades will be accompanied by training and other appropriate business change activities to ensure successful adoption of technology
- ICT and ICT providers will deliver major change using a collaborative and responsive approach

- ICT will enable seamless policing operations of specialist, regional and multi-force operations
- There will be automated, efficient digital collaboration with criminal justice, regional specialists, local authorities and commissioned pathways
- ASC will proactively support local, regional and national ICT initiatives and seek to collaborate wherever there may be potential benefits to be realised

- Core systems will be secure and robust, operating in a fast and reliable enough manner to not negatively impact officers and staff
- Systems will be fully integrated, sustainable solutions, allowing for direct and automated inputs and outputs
- ICT will be interoperable outside of ASC by adopting relevant standards and encouraging collaboration

Many of the critical operational policing processes are supported by core systems, for instance the management of incidents through the command and control system. Therefore, these systems are a key driver for technical requirements and target state architectures havebeen defined to show what the state of the core systems will look like when the ICT vision has been realised; the final destination on the journey.
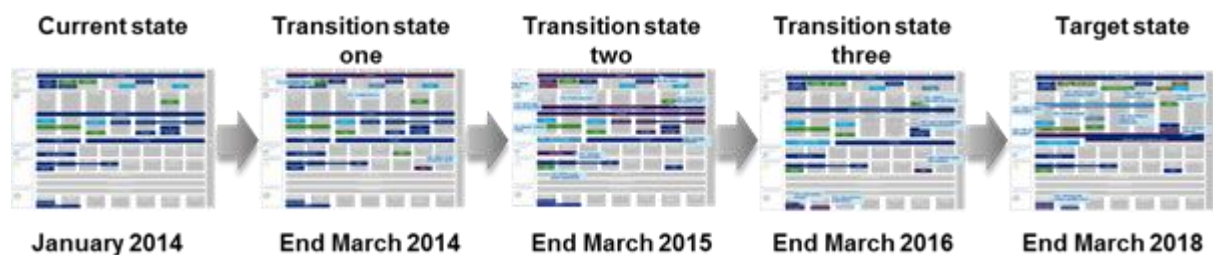
ICT Strategy Initiatives

Each of the ICT vision principles will be delivered by a series of the initiatives proposed over the lifetime of the ICT strategy. These have been mapped out on the diagram below.
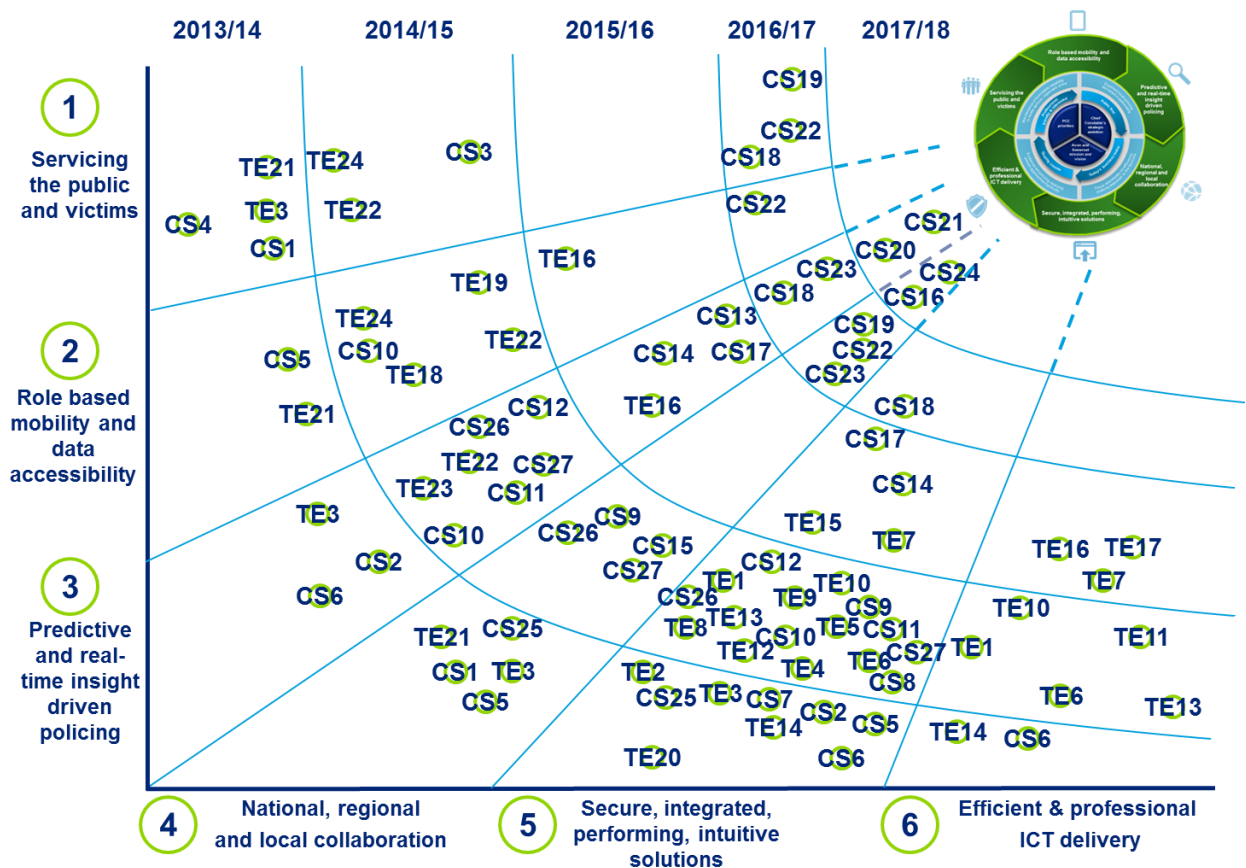
There are three sets of initiatives to be planned for:

- **Core systems (CS)** – A series of initiatives that will support the evolution of the core system's architecture towards the target state.

- **Technology enablers (TE)** – There are various technology enablers, such as the technology infrastructure required for police office buildings and IT data centres. In order to exploit the core system's capabilities there are several additional initiatives required to ensure the enablers are future-proofed.

- **Capability development** - ICT is a complex part of any organisation, and requires a range of people capabilities to deliver the vision as outlined in the ICT strategy. A series of initiatives to develop these capabilities has been highlighted.

These initiatives need to be incorporated into the annual planning cycle and prioritised against other, non-technology initiatives over the next five years, recognising the intrinsic dependencies.

The initiatives will deliver a variety of benefits including direct financial and other broader and non-financial improvements for police officers and staff and members of the public. An example of direct financial benefits of delivering the proposed initiatives would be lower overall power usage through increased server virtualisation.

The vision will also deliver a greater choice and robustness of channels for the public to engage with the Constabulary and increase the responsiveness of the services it provides, for eaxample Track my Crime makes it very simple to find information on a victim's incident quickly, along with reducing the demand on the contact centre.

Finally, police officers and staff will also receive benefits such as improvements to the performance of the storm command and control system, used to log 999 calls by force service centre staff, making for a better user experience and therefore passing communications more quickly between responding officers and the caller.

The initiative roadmap and industry experience suggest four initiatives that need to be started immediately to deal with a number of high-priority ICT capability gaps that need to be filled in order to successfully deliver the vision:

- Establish a strategy and enterprise architecture team within the Constabulary;

- Enhance relationship management – to facilitate understand of ICT needs across the Constabulary and establish the complete pipeline of change demand empowered representatives from ICT who can talk to senior offices and staff from the Constabulary and act as an engagement channel for emerging project needs, escalate issues and foster a joint understanding of each organisation needs to be optimised. This may require one or two additional dedicated roles.

- Dedicated resourcing for projects - transparency and direct control of the allocation of resources to projects should be increased.

- Proactive capacity management - an initiative should be carried out to build a capacity planning model that is able to assess the changes in requirement from in-flight projects.

Planning roadmap

To outline the high-level roadmap to guide the Constabulary's efforts to deliver the ICT vision the proposed initiatives will need to be prioritised and to enable this prioritisation exercise, initiatives have been assessed in terms of anticipated investment cost and expected benefits .A high-level timeline is presented below. This shows the key initiatives from the ICT strategy roadmap over the next four-year period.

The suggested sequencing of initiatives takes into account the hard and soft dependencies that exist between initiatives. However, this does not represent a validated plan and would need to be refined as part of the strategic planning process.
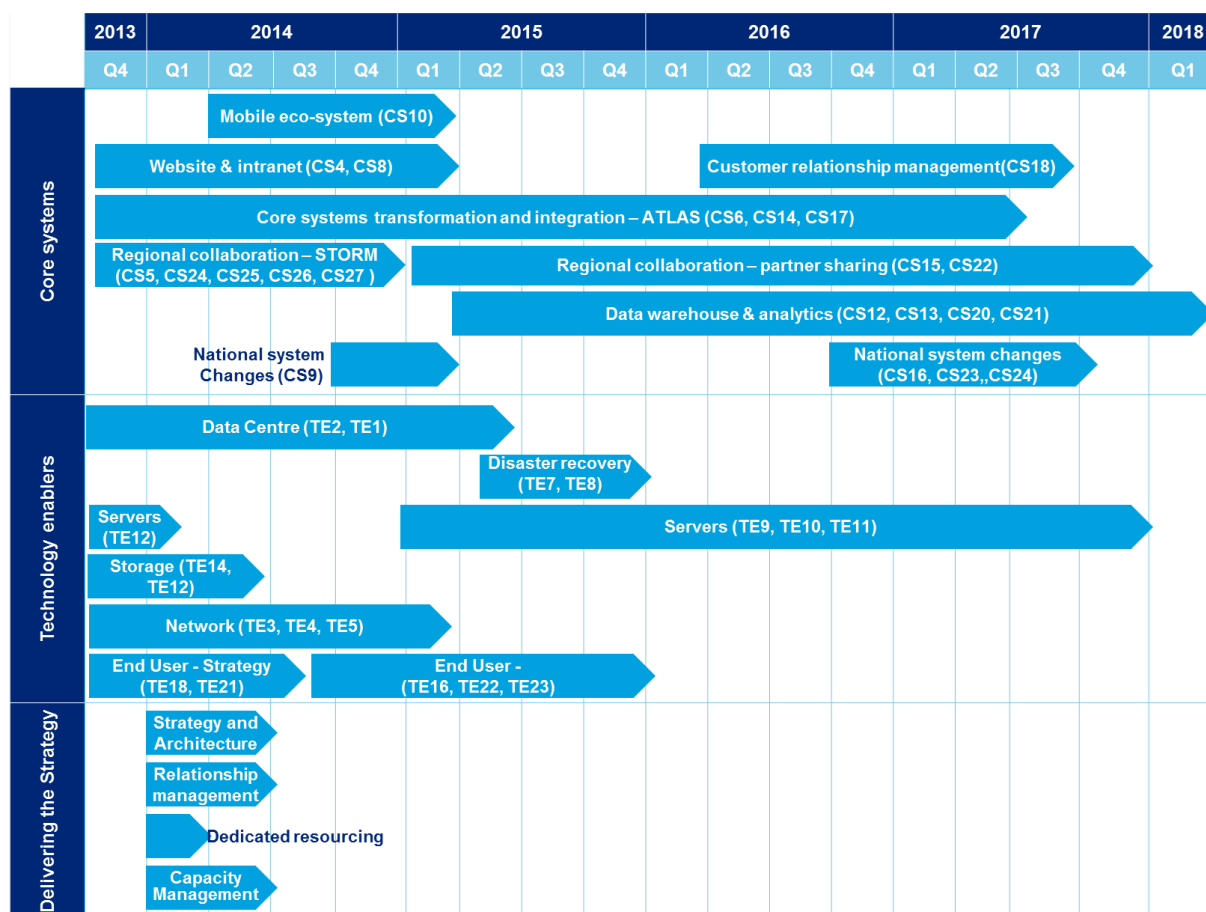
Planning roadmap

The Constabulary needs to make decisions as to how it will proceed with the roadmap once validated and the implications have been absorbed. It is imperative management give sufficient focus and time to the decision making process, as experience elsewhere suggests this is often the hardest step of implementing a new ICT strategy roadmap.

The roadmap from the ICT strategy needs to be assessed against the other funding priorities of the Constabulary, and then a task force mobilised to forward the prioritised initiatives. This taskforce is likely to be drawn from the management layer of the Constabulary and Southwest One. The focus should then be on developing individual business cases to feed into the strategic planning cycle led by the Strategic Service Improvement team.

1.1.1 Develop a joint Southwest One action plan

The ambition of the Constabulary needs an action plan to be agreed collaboratively with Southwest One on what needs to be done differently in order to progress the ICT strategy.

1.1.2 Ensure the right business 'infrastructure' is in place

There are a number of business enablers, or pieces of business 'infrastructure', that need to be in place to assist delivery and management of the proposed roadmap. They are:

- Business requirement standards and templates;

- Establishment of Design Authority as part of the Constabulary's governance arrangemets;

- A defined corporate data model;

- Focus on ICT training and other business implementation activities; and
- End-to-end ICT organisational alignment.

The following table outlines the keys tasks required to move the strategy forward following sign off of the ICT Strategy at Force COG.

30 Day Plan	60 Day Plan	90 Day Plan
• Communicate the new ICT strategy to the Constabulary; • Ensure alignment of current projects to ICT vision; • Confirm the ATLAS decision; • Establish design authorities for larger programmes; • Scope a holistic, corporate data model exercise; and • Complete the mobile strategy project.	• Finalise approach to funding ICT strategy projects; • Plan ICT strategy projects into change management roadmap; • Commence ICT strategy project business case development; • Develop a detailed information management roadmap; • Scope the initial activities for the new strategy and architecture team and commence detailed analysis; and • Define and agree an action plan with Southwest One regarding what needs to be done differently in order to progress the ICT strategy.	• Recruit the enterprise and data architects and the additional relationship management role(s); • Commence trial of new arrangements with Southwest One; and • Mobilise the project structures, capabilities and other resources required to deliver the agreed and funded ICT strategy projects.

1. Introduction

1.1 Constabulary background

Avon and Somerset Constabulary is one of the largest police force areas in England and Wales. It covers an area of around 1,855 square miles and is home to a growing and diversifying population of around 1.6 million people.

In common with a number of other UK police forces, the next four years present significant financial challenges for policing and community safety in Avon and Somerset. This is a particular challenge as incremental savings will become more difficult to achieve while preserving an acceptable level of performance and maintaining public confidence.

The disproportionate impact of 'damping' in the government's funding formula has, for a number of years, contributed to Avon and Somerset's under-resourced position. Recent Constabulary forecasts anticipate a £47m funding gap by the end of 2017/18 that will need to be addressed primarily through the delivery of efficiency savings.

Despite this funding challenge, the latest value for money report conducted by Her Majesty's Inspectorate of Constabulary for Avon and Somerset Constabulary demonstrates that it is delivering effective and efficient services with below average resources. However, continuing to increase performance while reducing costs will require a significant change in the way the Constabulary operates today. There are a set of programmes currently underway within the change portfolio that are seeking to address these challenges. The ICT strategy needs to be part of the solution as it describes how the evolution of the technology landscape and capabilities are required to operate successfully in the new environment.

1.2 ICT strategy objectives and scope

The objective of this ICT strategy is to present a vision for the future state of ICT for Avon and Somerset Constabulary and the roadmap to achieve it. This vision supports the priorities of the Police Crime Commissioner as per the Avon and Somerset Police and Crime plan 2013-17 and the strategic ambitions of the Chief Constable, Nick Gargan. The proposed initiatives to achieve the vision are informed by the aspirations of the change portfolio and draws on the strategic ideas proposed by Southwest One and other broader, innovative ideas from other clients and sectors.

Deloitte supported the production of the strategy over an eight-week period to produce the new ICT strategy. This involved a significant number of interviews and workshops with technical, managerial, operational and service delivery partner resources and policing officers and staff. Existing documentation was also reviewed, including other related strategies such as those for greening Government ICT Strategy (sustainability), data quality, storage and information management, which with the ICT Strategy, complement and enhance each other to enable the Constabulary to meet its objectives. In addition, a number of meetings were held with senior members of the Constabulary to discuss the vision and initiatives proposed. Details of the stakeholders involved are included in the appendices.

The recommendations provide focus on where additional work is required, particularly in validating the desired business outcomes and appetite for the level of organisational change that will be required to realise the potential benefits.

1.1 Approach and Deloitte's ICT strategy method

Deloitte's ICT strategy method is a structured, robust and proven approach to developing an ICT strategy. It contains an approach and clear statement of scope that covers all the technical as well as business areas required to generate a holistic strategy. The overview of the method has been included below as Figure 1.
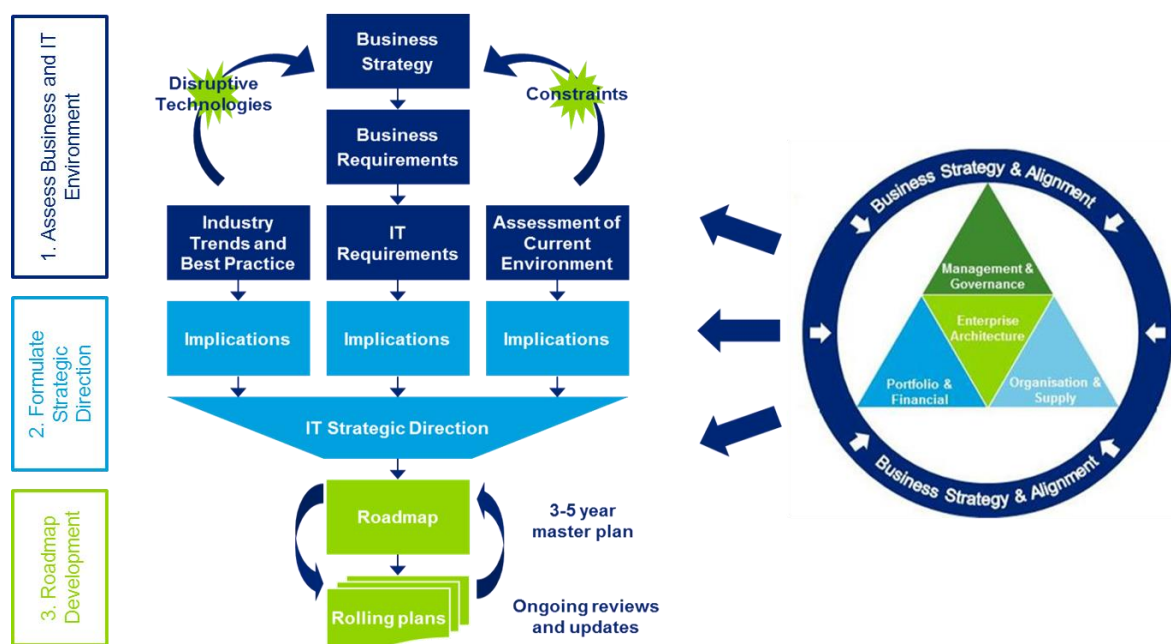
Figure 1 - Overview of ICT strategy method

The approach consists of three key steps:

1. Assessment of business and ICT environment – Understand the policing drivers and their potential impact on IT, as well as the current state of the ICT function

2. Formulate strategic direction – Develop a vision for how ICT should meet the current and future needs of the organisation

3. Roadmap development – Translate the vision into an actionable roadmap to support the current and future business needs

Each of the five strategy domains of the method have been considered as part of defining a holistic ICT strategy for Avon and Somerset Constabulary:

Business strategy and alignment – Alignment of ICT capabilities and services to the strategic needs of the business. This includes understanding the competitive business context, or in this instance, the Constabulary's policing goals, and how ICT can provide value to the business, leading to the definition of ICT's strategic direction.

Management and governance – End-to-end processes and controls to run and manage the ICT function according to its strategic direction. This includes processes for planning, ICT change portfolio management, compliance, communications and ICT risk and performance management.

Enterprise architecture – ICT technology components and how they support the business. This considers multiple layered representations such as business processes, information and data, applications and technical services, hardware, connectivity and system software infrastructure. It may also include principles, standards, security and business continuity.

Portfolio and financial – ICT initiatives, their prioritisation, sequence and alignment to the business strategy. The financial aspect considers the funding needed for ICT initiatives and ongoing ICT support for the business. It also includes facilities for budgeting, reporting and chargeback.

Organisation and supply – Overview of the structure and location of ICT functions and their interrelationship with the business. This considers roles, reporting relationships, competencies, work environment and culture. It also includes sourcing of capabilities; internal and external resources and third party vendors.

1.3   Overview of this document

The ICT strategy for Avon and Somerset Constabulary contains the following:

- **Policing vision –** Demonstrates how the Constabulary's overall policing strategy has informed and driven the principles of the ICT vision. This ensures that it will enable the Constabulary's strategy. The overall policing strategy has been derived from a number of sources; the priorities of the Police and Crime Commissioner, the strategic ambition of Chief Constable Nick Gargan and the Constabulary's mission and vision statements;

- **Core business systems -** The core systems should evolve over time to address the changing needs of the Constabulary, which should be towards a defined target in order to deliver the ICT vision in a cost effective manner. The major initiatives required to achieve the planned evolution of core systems over the period of the roadmap are outlined in this section;

- **Technology enablers -** Outlines the key technology enablers that will be required to deliver the ICT vision. This includes end user and office device technology in addition to infrastructure initiatives covering more technical areas such as data centres, networks, servers, storage and disaster recovery;

- **Delivering the strategy –** ICT is a complex part of any organisation, and requires a range of capabilities to deliver the vision as outlined in the ICT strategy. Areas for action and areas for focus to develop capabilities have been highlighted using the Deloitte ICT capability framework and wider industry experience; and

- **Roadmap and critical success factors –** An appropriate order for the delivery of the proposed initiatives has been determined by establishing key interdependencies and assessing anticipated costs, benefits and urgency for each. These initiatives form a high-level roadmap to guide the Constabulary's implementation efforts.

1.4   Assumptions

A number of assumptions were made during the production of this ICT strategy. Some of these are holistic assumptions that apply to any ICT strategy, others are specific in the context of policing and to the Constabulary.

- **Draft ICT strategy for feedback –** This strategy has been published as a draft document in order to facilitate the gathering of feedback and assist decision making to be reflected back into a final version;

- **Action-orientated strategic document** – ICT strategies outline a roadmap for change and present a view of business benefit against cost in order to enable appropriate decision making. This does not eliminate the need for business cases or allow the normal project lifecycle to be shortened. The strategy identifies those major changes needed to move towards the vision rather than a detailed statement of all aspects of the Constabulary's current ICT and organisation. It therefore does not provide an overview of the services provided by ICT in today's setting;

- **Unconstrainted by cost** – The ICT strategy outlines the initiatives required to achieve the ICT vision without being overly constrained by costs or funding. This will need to be reviewed in due course and refined based on the budgetary constraints of the Constabulary;

- **Evolving strategy –** The ICT vision outlined and roadmap of initiatives will change over time. Therefore, the view presented is a point-in-time view. There is an expectation the strategy will continue to evolve, either with periodic refreshes or through ownership by a dedicated function.

- **Context of Southwest One –** The joint venture with Southwest One will continue as planned for the rest of its lifespan. The ICT strategy has not made any recommendations on the organisation design or governance structures between Southwest One and the Constabulary as this is embedded within the existing contractual agreement;

- **Data –** It has been assumed that the information provided by Avon and Somerset Constabulary and Southwest One is reliable and accurate. This ICT strategy was developed in an eight week window, including the Christmas period, which has not allowed for due diligence of the data to be undertaken. Therefore it is likely to contain a small number of factual errors and omissions that should be corrected over time as part of the feedback process;

- **Strategic direction –** The future policing operating model of significant parts of the Constabulary is being designed through the implementation of the 'Reshaping the Operating Model' programme that is due to go-live in July 2014 at the time of writing. However, as this model was not available for review while the ICT Strategy was being produced, its impact on the ICT vision and the requirements of the Constabulary for the impacted business areas are not yet understood fully by the business and so will have to be reconsidered following a suitable period of 'bedding in';

- **Security classifications of systems** – The ICT strategy focuses on core business systems with the to-be security classification of 'Official' or below. The ICT requirements for 'Secret' and 'Top secret' systems have not been included, though there will be significant overlap of requirements within the technology enabler vision statements. Due to this scope restriction, no vision has been outlined for cyber security needs other than high-level considerations, although it is worth noting the importance of this area ; and

- **Potential roadmap benefits and costs** – The high-level indicative benefit and cost brackets included in this strategy have not been derived from a formal market sounding exercise. They have been based on case study examples of similar projects and previous relevant experience. It is important to recognise the limitations of the information provided and the need for appropriate scoping and procurement activity as part of developing a more robust assessment of costs in business cases.

2. Policing vision

2.1 Policing imperatives

The Police and Crime Plan developed by the Police and Crime Commissioner (PCC) sets out the police and crime priorities and objectives for Avon and Somerset for 2013 - 2017. It sets the strategic direction for crime and policing services over the next four years and has been developed following extensive consultation with communities to understand issues and concerns. The PCC's stated priorities are:

- Reduce the impact that anti-social behaviour has in our communities;

- Tackle domestic and sexual violence, particularly violence towards women and children;

- Prevent and reduce burglary and fear of burglary; and

- Ensure victims are at the heart of the criminal justice system.

In developing the ICT strategy, it is essential to link the ambition of the strategy to that of the Constabulary. To deliver against the PCC priorities and the Constabulary's mission, vision, values and its five year ambition, the organisation needs to be visible, accessible, open and friendly, helping people when needed and protecting them from crime and criminals. This is supported by the ICT strategy in a number of ways, including:

- The core systems required to deliver the ICT vision will enable system users to access, from any location, the appropriate prioritised data in the most appropriate format and support more efficient business processes – thereby reducing reliance on police stations as the key workplace location and reducing the time to complete core business processes and become ready for redeployment;

- Considering how innovation and emerging technology trends are built into the ongoing refinement of the ICT Strategy and its ability to provide enhanced support for the Constabulary, for example use of speech recognition software, UAVs and how wearable devices (body cams and context/location sensitive visual devices) will impact access to relevant information and business processes in a mobile environment;

- Introduction of new solutions with improved usability and that are more intuitive. Solutions that are fit for purpose and deliver the expected benefits through early engagement with end users in the design and testing stages of the implementation, deploying such new solutions as 'personal issue' where possible, as well as considering the most appropriate approach to technology training, including refresher training to derive maximum benefit from both new and existing investments in technology solutions;

- Those managing critical incidents will be easily able to access timely, appropriate and up-to-date intelligence to inform decision making;

- Operational tasking and co-ordination will be informed by the totality of what is known within the organisation, within appropriate role based access controls;

- Better for the public through systems that improve identification of people and places posing a threat, linking crimes and allowing users to more quickly identify patterns in data, supporting predictive policing and an enhanced risk based approach to resourcing, with an ultimate goal of real-time, predictive crime models;

- Better for police practitioners as operationally, technology will be perceived as 'helping to get the job done' by providing systems and infrastructure that:

  o meet expectations in terms of functionality, solution performance and usability;

  o support the business processes and information needs relevant for that role;

  o offers new channels to the Public to enable them to undertake self-service activities, for example the implementation of an e-commerce solution that allows direct payment to the Constabulary for licences and other products;

  o takes account of the typical operational environment during the solution design stage, for example the availability of a mobile bearer network across the rural areas of the Constabulary, extremes of operating conditions, etc.;

  o Takes account of work already underway or consideration of new solutions that may support delivery of the ICT Vision and the Constabulary's ambition at all levels of scale, for example from the Atlas solution to consideration of the National Mobile Property Register search engine, or mobile STORM solution as part of the mobile data strategy, or investment in technical equipment that can be deployed, with the appropriate safeguards, to tackle cases of ASB; and

  o can scale with demand, for example the ability to capture, transmit, store and analyse large volumes of data and digital content such as multicast video streams, HD body cam data or electronic statements / interviews.

- Better for the environment by implementing a cost effective and energy efficient ICT estate, which is fully exploited, with reduced environmental impacts to enable new and sustainable ways of working for the Constabulary. In addition embedding of green ICT principles into the ICT estate and its business processes.

- Simpler for staff through re-use of existing data, clearer "golden nominal" functionality to identify and track the "single" record about a person and improved quality of decision-making through re-use of information from across business areas; and

- Value for the organisation through realisation of savings generated by rationalising the number of systems and improving the efficiency of how existing assets are used (for example vehicle fleet management and predictive workforce planning systems), as well as improved operational value through greater access to data from across business areas to facilitate more informed operational decisions and risk assessments and more efficient business processes.

External drivers for change are just as strong, as partners across policing, criminal justice and the wider Avon and Somerset public sector underpin their desire for closer working with a realisation that shared information assets are increasingly critical. Example external drivers include:

- Her Majesty's Inspectorate of Constabulary, which is continuing to press forces to increase data quality and standards of crime and incident recording. The ICT strategy considers data as an asset – captured once, re-used, maintained and electronically stored wherever possible, and with data quality embedded in system design to improve the quality of data before it is re-used;

- Local authorities, which recognise that often victims of crime have complex needs beyond the remit of the police, so effective information sharing, such as the multi-agency safeguarding hub concept, provides a mechanism for early identification and risk reduction activities across partners and Criminal Justice agencies. The ICT strategy provides a technology road map to achieve this in a more robust and sustainable manner; and

- An increasing number of constabularies in the region are adopting integrated solutions using open standards similar to those proposed as part of the ICT strategy, increasing the opportunities for multi-force and multi-agency collaboration.

2.2 The information and communication technology vision

The expectation of the Constabulary is for ICT to move from being responsible for operating technology efficiently to understanding its operational needs. This will enable ICT to play a leading role in supporting transformation through technology-enabled business change. Therefore, the ICT vision must focus on more than just technology. The management of the function in terms of processes, people, organisation and finances is just as critical to success as the technical issues.

The ICT vision for the Constabulary, shown in Figure 2 below, recognises that these additional needs are complementary to the operational requirements embedded within the policing mission and vision, values and principles.
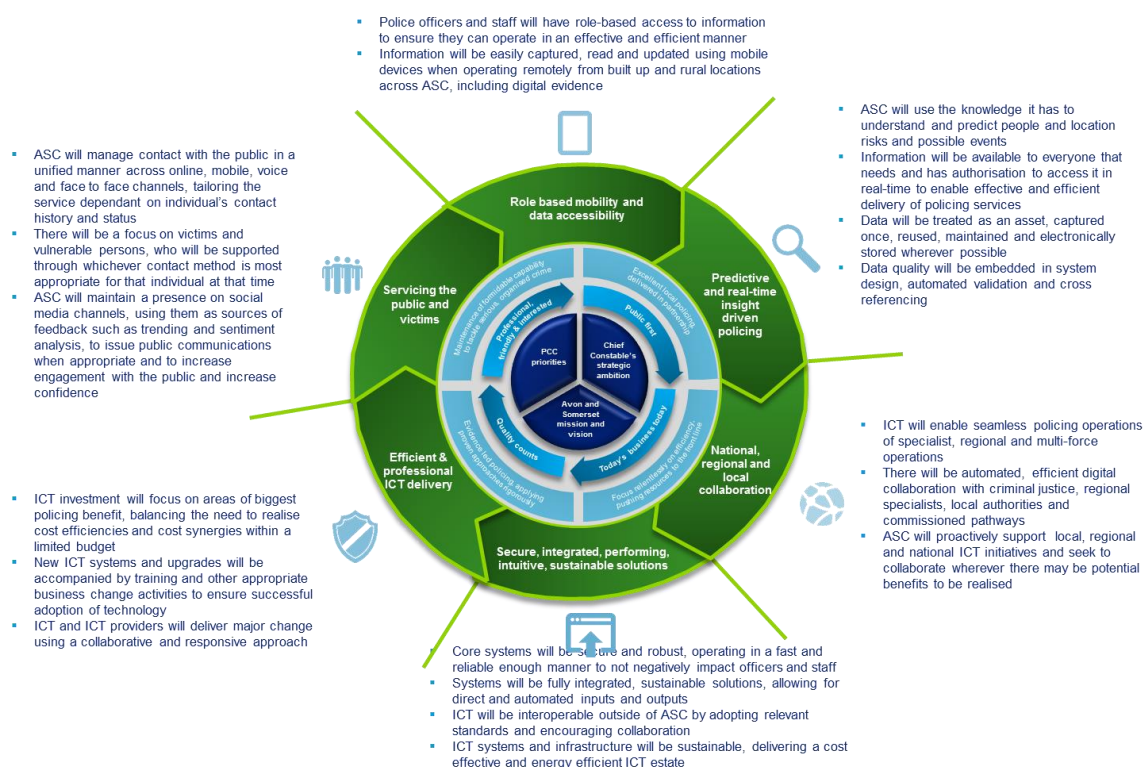

Figure 2 - ICT vision

In summary, the ICT strategy and investment will enable front-line police officers and staff to better carry out their roles and be more effective and efficient in delivering to victims and serving the public.

A full sized version of the ICT vision has been included in appendix H: The Avon and Somerset Constabulary ICT vision.

The ICT principles are:

- **Servicing the public and victims** – The Constabulary exists to service the public and victims of crime and as such it needs to be accessible to everyone and maintain public confidence in policing. In today's environment, this means a heavy emphasis on online and mobile channels as well as the more traditional face-to-face and contact centre channels. The PCC's statement that "I will put victims at the heart of the Criminal Justice System" has direct implications on the level of service victims will expect through their interactions with the Constabulary;

- **Role-based mobility and data accessibility** – The nature of policing makes the ability to complete key tasks without needing access to a laptop or desktop crucial, such as conducting vehicle owner identification checks whilst out on patrol or taking witness statements in electronic format at the first point of contact. This remote accessibility ensures officers and staff spend less time doing back office administration and more time focused on their core tasks. It also means that information is available more quickly to support decision making and potentially prevent future crime before it happens, as well as increasing the accuracy of data if captured at the scene via a mobile device, assuming the appropriate data quality controls and end user training are in place;

- **Predictive and real-time insight driven policing** – operational effectiveness and service delivery to victims and the wider public is improved significantly if police officers and staff can be in the right place at the right time with the information they require. The relatively new technological ability to sift vast quantities of textual, graphical and video data rapidly allows risk to be understood and the proactive, informed deployment of limited resources to where they will be needed;

- **National, regional and local collaboration** – Boundaries exist only on a map and establishing easy to use and digital collaboration tools for all partner agencies in the region and with an ability to link into national schemes provides the prospect of an enhanced, more integrated delivery of service to the public, victims and offenders. There are also opportunities for the Constabulary to take the lead in shared regional initiatives that will deliver wider benefits whilst at the same time delivering cost savings and additional revenues, building on the success of the provision of Track My Crime products for other forces. Sharing information more freely for operational benefit, albeit within an appropriate environment, supports wider collaboration and joint tasking to address crime;

- **Secure, integrated, performing, intuitive, sustainable solutions** – The provision of collaborative and remotely accessible ICT services, such as apps on mobile phones with access to digital evidence at a crime scene, needs to be underpinned by secure and robust systems that are defended from attack and do not allow information to be accessed by unauthorised parties. This should not prevent the underlying systems from being intuitive and easy for police officers and staff to learn how to use quickly for example by using a common user interface regardless of device. Consideration must be given to system performance and the capacity of the underlying infrastructure to support the rapid developments in capture

systems should also be as integrated as possible (where appropriate) through the use of common standards wherever possible. ICT systems and infrastructure will be sustainable, delivering a cost effective and energy efficient ICT estate; and

- **Efficient and professional ICT delivery** – Investment in ICT needs to be balanced against the need to make significant cost reductions in the short and medium term. Improvements to existing ICT services will be limited to areas that will deliver a step change in capability or other tangible benefits. Suppliers, most significantly Southwest One, need to work collaboratively to achieve the Constabulary's goals.

These principles represent a set of test criteria that will be applied to all future ICT change work. Investment decisions should align to pieces of work that further one or more of the principles, whilst those that either do not support or contradict the vision will be subject to further challenge and reassessment.

Each principle has been expanded into a set of ICT needs that provide direction for the work to be undertaken by the Constabulary to deliver the vision. These needs are shown in Figure 3 below.

Policing	Information, Communication & Technology

ICT needs

- ASC will manage contact with the public in a unified manner across online, mobile, voice and face to face channels, tailoring the service dependant on individual's contact history and status
- There will be a focus on victims and vulnerable persons, who will be supported through whichever contact method is most appropriate for that individual at that time
- ASC will maintain a presence on social media channels, using them as sources of feedback such as trending and sentient analysis and to issue public communications when appropriate
- Police officers and staff will have role-based access to information to ensure they can operate in an effective and efficient manner
- Information will be easily captured, read and updated using mobile devices when operating remotely from built up and rural locations across ASC, including digital evidence
- ASC will use the knowledge it has to understand and predict people and location risks and possible events
- Information will be available to everyone that needs and has authorisation to access it in real-time to enable effective and efficient delivery of policing services
- Data will be treated as an asset, captured once, reused, maintained and electronically stored wherever possible
- Data quality will be embedded in system design, automated validation and cross referencing
- ICT will enable seamless policing operations of specialist, regional and multi-force operations
- There will be automated, efficient digital collaboration with criminal justice, regional specialists, local authorities and commissioned pathways
- ASC will proactively support local, regional and national ICT initiatives and seek to collaborate wherever there may be potential benefits to be realised
- Core systems will be secure and robust, operating in a fast and reliable enough manner to not negatively impact officers and staff
- Systems will be fully integrated, sustainable solutions, allowing for direct and automated inputs and outputs
- ICT will be interoperable outside of ASC by adopting relevant standards and encouraging collaboration
- ICT investment will focus on areas of biggest policing benefit, balancing the need to realise cost efficiencies and cost synergies within a limited budget
- New ICT systems and upgrades will be accompanied by training and other appropriate business change activities to ensure successful adoption of technology
- ICT and ICT providers will deliver major change using a collaborative and responsive approach

ICT principles

- Servicing the public and victims
- Role based mobility and data accessibility
- Predictive and real-time insight driven policing
- National, regional and local collaboration
- Secure, integrated, performing, intuitive solutions
- Efficient & professional IT delivery

Policing principles

- Excellent local policing, delivered in partnership
- Maintenance of a formidable capability to meet those challenges that are too big for local policing alone; like serious and organised crime and counter-terrorism
- Adherence to evidence-led policing. Where approaches have been proven to work, the Constabulary will apply them rigorously and continuously
- Focus relentlessly on efficiency, ensuring understanding of costs. The Constabulary will push resources to the front line and develop resource management skills to get the best out of their people

Policing values

- Public First
- To be professional, friendly and interested
- Today's business today
- Quality counts
- Value for money for the public

Policing mission and vision

- PCC priorities
- Chief Constable's strategic ambition
- Avon and Somerset's mission and vision

Figure 3 - Elaboration of the ICT vision

4. Core business systems

4.1 Introduction

Many of the critical operational policing processes are supported by core systems, for instance the managing of incidents through the command and control system. Therefore, these systems are a key driver for technical requirements. The core systems should evolve over time to address the changing needs of the Constabulary, which should be towards a defined target in order to deliver the ICT vision in a cost effective manner.

The Deloitte policing reference architecture, Figure 4, has been used to create a high-level systems architecture. This enables the planned evolution of the core systems to be shown. The reference architecture outlines who can access which services and how these are supported by operational and other enabling functions. For instance, a police officer can use the website to access intelligence services. The fact that he is on duty is registered by HR systems, supported by various corporate and technical services.
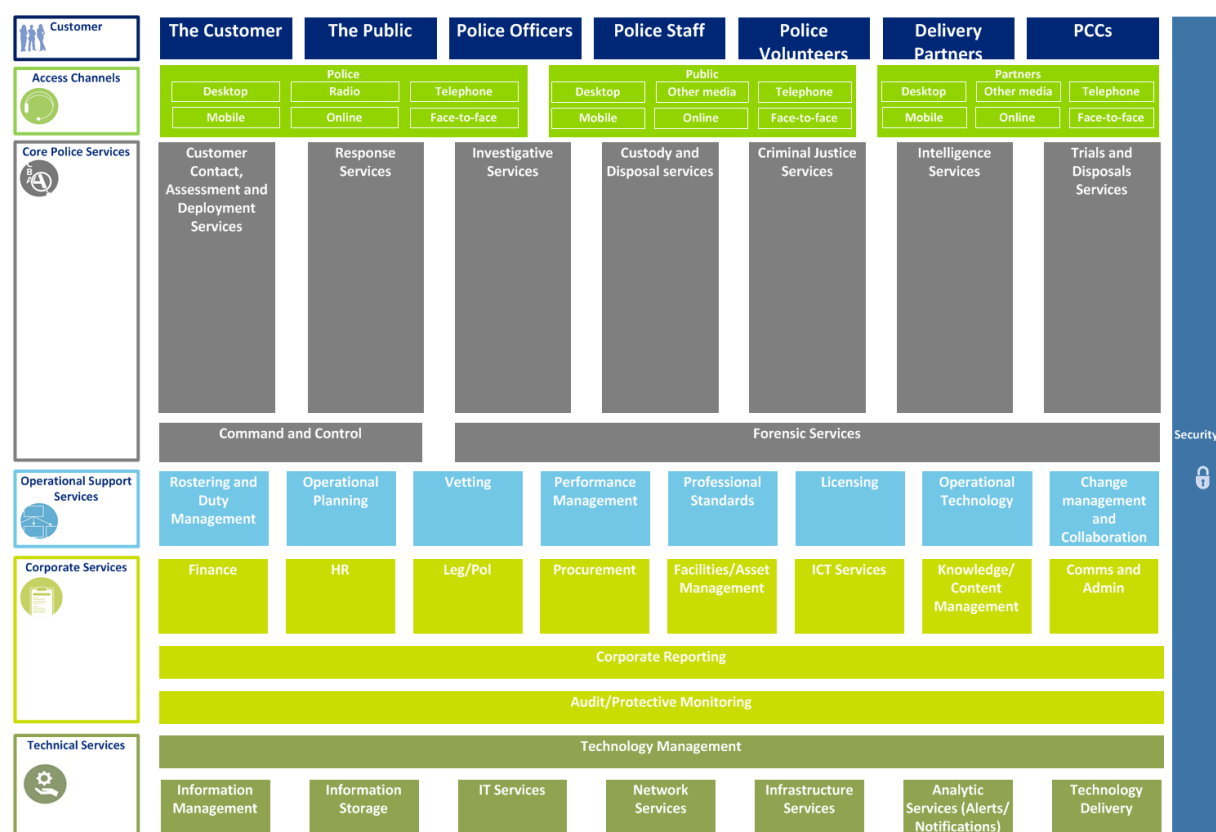

Figure 4 - Deloitte policing reference architecture

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4.2 Target core systems architecture

The target state architecture shows what the state of the core systems will look like when the ICT vision has been realised. The target state represents the final destination of a journey. Once that decision has been made, the journey can be mapped out and planned in the optimal manner.

The target architecture in Figure 5 is capable of delivering the Constabulary's policing mission and vision and enabling delivery of its five year ambition. It has been informed by experiences from other constabularies and anticipated national intiatives, as well as being guided by the ICT principles. Only core systems considered critical to the delivery of policing services have been included to date, this will need to be refined to establish a complete view of all Constabulary systems in due course.
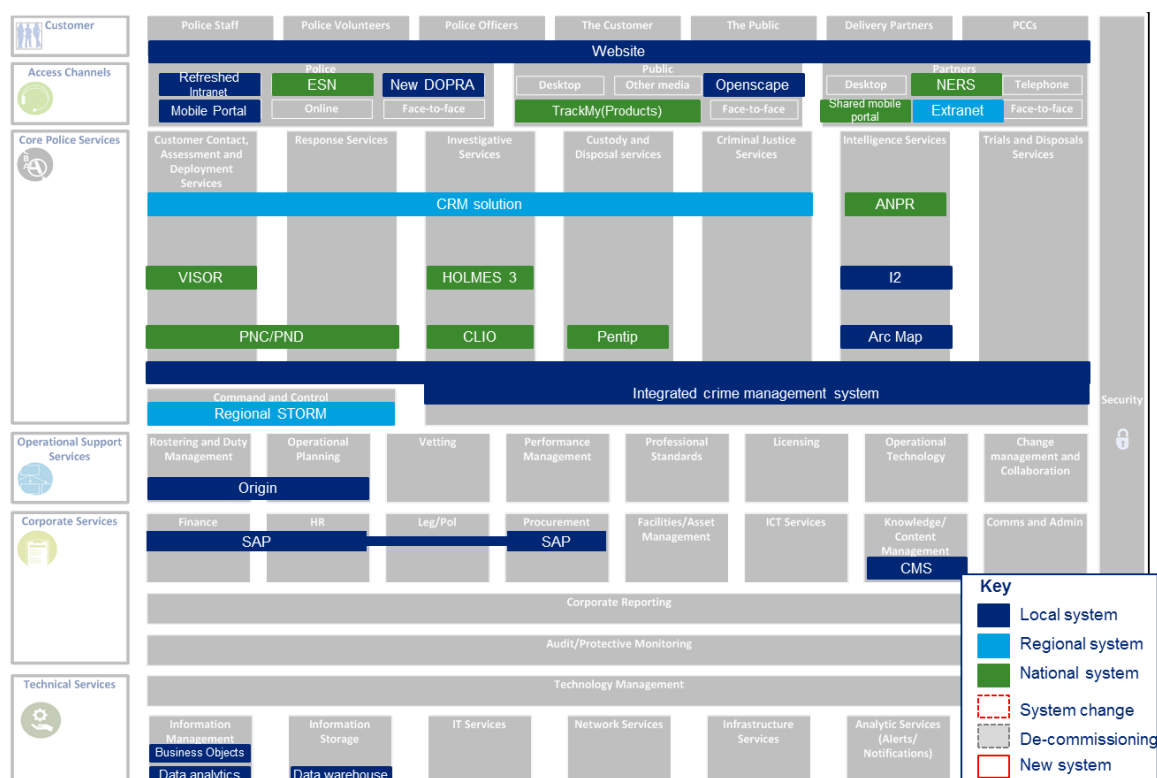

Figure 5-Target State System Architecture

A full-size version of this diagram is provided in Appendix E.

The table below describes each of the components shown on the target core systems architecture above. It also explains why this enables the ICT vision.

System	Description	Rationale
Website	The new website will enable the public to access information in a format that meets their needs and enables the force to manage expectations. This solution will offer a high degree of self-service opportunities and content discovery.	The new website will deliver improved self-service functions to provide up-to-date information and services to customers, improving public perception about the service provided by the Constabulary.

System	Description	Rationale
Refreshed Intranet	Refresh of the Constabulary intranet to better organise content and deliver improved search functionality and access to content for police officers and staff.	Easier for Constabulary practitioners to access the up-to-date internal information they require to effectively carry out their day-to-day jobs.
Integrated investigation, crime recording, intelligence, custody and case preparation system (ATLAS)	An integrated ICT system which manages business processes effectively and efficiently across the core areas of investigation (of all types), crime recording, intelligence, custody, case preparation and management of detained property to replace two of its core systems: Guardian (crime recording, investigations and property management) and (NSPIS) for Custody and Case Preparation.	Provides a platform to support fundamental change to significant parts of the Constabulary's operating model and required to realise savings and other benefits. There is a desire to have greater integration between custody and crime management systems to reduce the current administrative burden of manually re-keying crime information and improving the efficiency of accessing information relevant to an individual's role.
Origin	An upgraded fit-for-purpose and in-support police rostering solution integrated with the SAP HR system.	A rostering solution that meets the requirements of policing work schedules will alleviate current pain points and administrative burden surrounding software reliability issues and double-keying.
Openscape	The interactive voice response system used for routing calls to the force services centre when they are initially reported.	Ensuring that emergency and non-emergency calls are accurately prioritised and resolved at first point of contact is critical to providing a victim-centric service
Business Objects	Business intelligence system for enterprise reporting, enterprise information management and query tools.	Automating the production of corporate reporting information for internal and external reports will optimise information flows and aid decision making
Digital content management system (CMS)	Content management system with the capability to effectively store and search digital evidence such as video interview records, body camera records and CCTV footage.	There is a growing requirement for the effective storage and management of digital evidence in a single, searchable location given the increase in planned use of evidence from body cameras, CCTV and digital imagery from mobile devices provided by the public.
SAP	Industry standard enterprise resource planning solution used for back office HR, procurement and finance functions.	Upon completion of the in-flight project to resolve issues with the SAP HR module, this system will deliver the necessary capability for the lifetime of the roadmap.

System	Description	Rationale
Data analytics	Solution for data analysis and visualisation of information stored in the data warehouse. This may be a new solution or an upgrade to / further development of existing tools such as the Analyst Notebook and iBase products supplied by IBM i2which (respectively) support operational work (by visualising networks, telecoms data, representing work for court, etc.) and act as a data repository application designed to capture, control and analyse multi source data.	Analytics tools to increase the quality of information provided to officers will enable them to better protect vulnerable people and assist the reduction and prevention of crime.
Data warehouse	Data warehouse solution to extend and / or replace ASSIST, leveraging standard data mart schema to improve data integrity.	This is a key enabler for the Constabulary to achieve its aims of using predictive analytics to enhance policing service delivery. Optimising and automation of information flows and reporting will aid decision making.
CRM	A CRM type solution to manage and track customer contact and which will also ensure support for a victim-centric approach to interactions with the Constabulary.	Enhance customer/victim engagement, intelligence gathering, internal and external collaboration by having a single view of an individual across all contact channels with the Constabulary, local and regional partners and potentially nationally. The introduction of CRM will require a very significant behavioural change and shift in thinking for the Constabulary
Extranet	Build a regional extranet hub for automating data integration with other constabularies and partner agencies.	Furthering the regional collaboration agenda through automating the flow of information between partners where possible which will reduce the amount of manual transfers and searches required and support more integrated delivery of the service.
VISOR	Web-based tool to search for individuals on the national Violent and Sexual Offenders Register	This is a national system used by all forces to enable constabularies to work together to protect the public
HOLMES 3	A national major crime investigation system for the investigation of major incidents such as serial murders and major fraud	This is a national initiative driven by the Home Office and is critical to enable constabularies to collaborate in the prevention of serious crime.

System	Description	Rationale
Regional STORM	A Tri-Force regional command and control system for Avon and Somerset, Wiltshire and Gloucestershire constabularies. This solution will be inclusive of mapping functionality accessible on police end-user devices.	Establishment of a more efficient and collaborative regional platform will maximise economies of scale. Improved ability to respond to incidents by harnessing data available across other forces and co-ordinating response efforts across the region. Work will need to be undertaken by the Constabulary to document its corporate date model and then determine how it needs to be reconfigured to support a regional command and control solution.
ESN	Deploy the Emergency Services Network (ESN) to replace the Airwave communications system. This new network will be determined nationally that aims to provide increased functionality. This initiative also includes completing the upgrade to the DOPRA system.	The Emergency Services Mobile Communications Project (ESMCP) is a project driven nationally by the Home Office to deliver the ESN solution. The existing DOPRA interface provides an intuitive, accessible interface for command and control staff. The upgrade to DOPRA is required to support the implementation of the ESN by maintaining inter-operability during migration from the Airwave system to the ESN. It is important to note that the current DOPRA system is not compatible with a VoIP Telephony system or the new ESN system. If VoIP is being introduced at HQ then the DOPRA system will need to be upgraded to satisfy VoIP requirements and be ready for the ESN implementation. This dependency needs to be considered during the next stage of project prioritisation and detailed planning.
TrackMy products web/mobile	The Track My Crime online portal is designed for the public to keep abreast of how the crimes they report are being progressed. Additional opportunities to improve engagement with the public through additional 'Track My' products should be explored.	Track My Crime is a simple tool for the public to access information on crimes related to them and is expected to increase public engagement and drive efficiency savings through the redirection of non-emergency interactions to un-manned, low cost channels.
Shared mobile portal	Secure mobile apps to provide partners agencies such as charities and health services with self-service access to specific Constabulary information	Enabling local and regional agencies to complete specific enquiries for Constabulary information will better enable a more victim-centric, holistic service to the public.
PNC/PND	The police national crime database. The scope of updates / changes will be defined by the national policing agenda but may include consolidation of PNC and PND or mobile access to these tools.	This is a national initiative driven by the Home Office and seeks to provide the Constabulary with ease of access to national crime information.

System	Description	Rationale
CLIO	Nationally adopted crisis management system for collaborative working on incidents such as kidnappings and terrorism.	National system used to enable a collaborative approach to tackling crises and major incidents.
ANPR	The national automatic number plate recognition system is used to track UK vehicle movements in real time in support of investigations.	ANPR is used on a national basis for investigations and intelligence to identify vehicle movements in relation to tracking suspects and / or criminal movements.
Pentip	This solution will cover the management of penalty notices for driving offences, and those for disorder, which are issued for offences such as shoplifting and damage to property.	Mandated by the national agenda. The system enables the Constabulary to access information on a single administration system, allow the police to make cross boundary checks and speed up the administration of notices.

4.3 Transition states with recommended initiatives

The target core systems architecture will evolve over a number of years. New and updated components will be designed and introduced following the Avon and Somerset Constabulary planning cycle. The transition states listed in Figure 6 below represent snapshots in time of the core systems police officers and staff will be using.
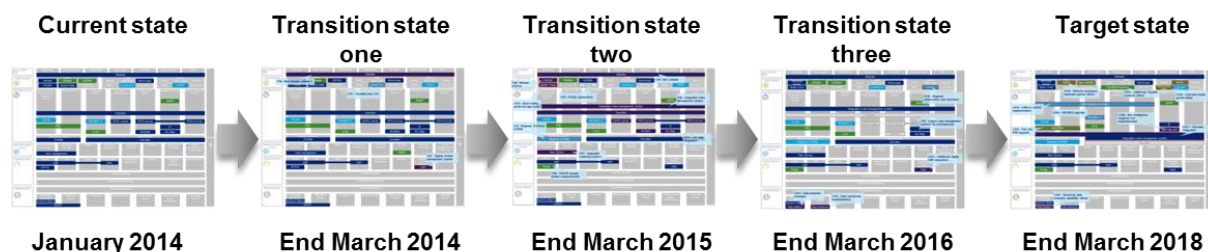

Figure 6 - Transition states

4.3.1 Transition state one (end March 2014)

Given the minimal timescale between the current and the first transition state, no new core system initiatives are expected to deliver major change by March 2014. This state depicts the solutions that are due for delivery by in-flight projects, specifically;

- Delivery of the first release of the Constabulary website;
- First roll-out of the Track My Crime V2 solution to another regional police force; and
- Delivery of a content management system for digital evidence, albeit that initial assessment has highlighted a need to review the overall scope of the projects in this area relative to the future requirements of the Constabulary.
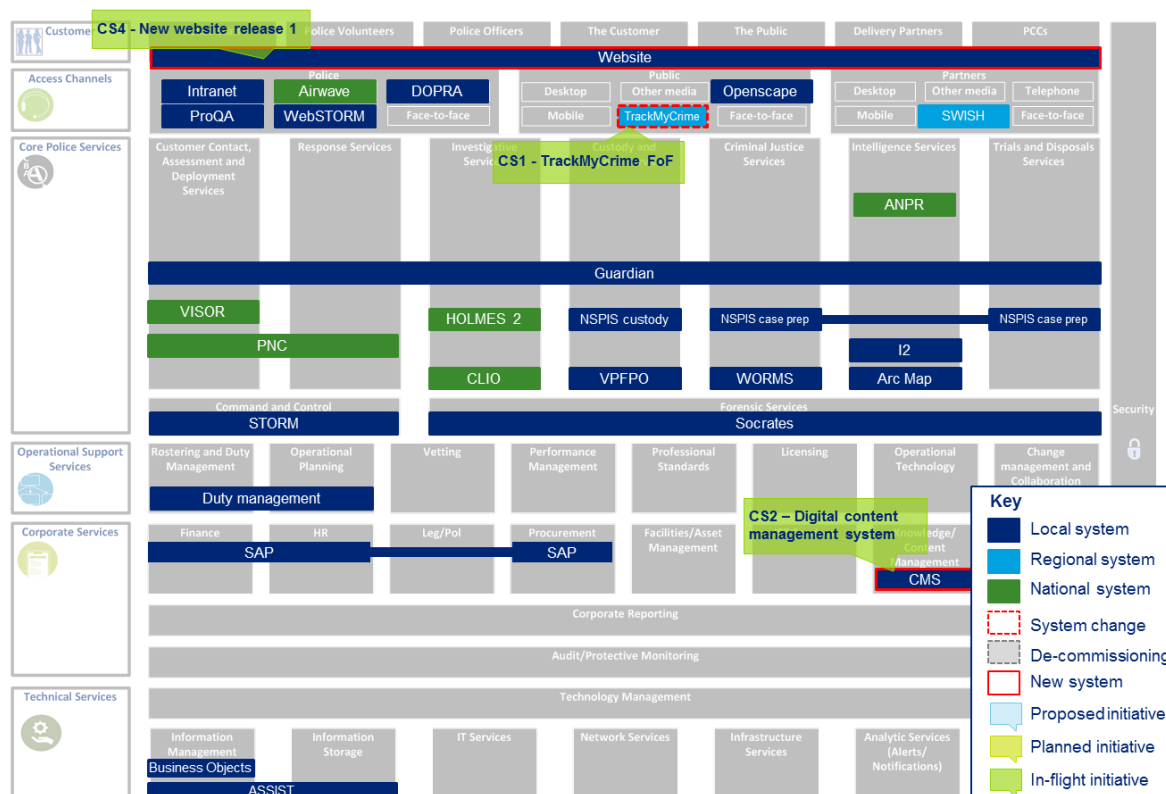
Figure 7 - Transition state one (end March 2014)

The table below describes the initiatives called out in Figure 7 above.

Ref	Name	Description	Rationale
CS1	Track my Crime For Other Forces deployment	Phased rollout of the Track my Crime v2 solution to other constabularies with a view to deploying this nationally. This online portal is designed for the public to keep abreast of how the crimes they report are being progressed.	Track My Crime rollout will deliver improved self-service functions to provide up-to-date information to victims and the public across England. This improves the service offering to the public whilst driving demand from telephony enquiries to a more cost-efficient channel.
CS2	Digital evidence content management system implementation	Implementation of a content management system for the storage of digital evidence such as video interview records and CCTV footage.	There is a growing requirement for the effective storage and management of digital evidence in a single, searchable location given the increase in planned use of evidence from body cameras, CCTV and digital imagery from mobile devices provided by the public.

Ref	Name	Description	Rationale
CS4	Website refresh	The new website aims to enable the public to access information in a format, which meets their needs and enables the force to manage expectations. This solution will offer a high degree of self-service opportunities and content discovery. It is recommended that the scope of this initiative is increased to include implementation of e-commerce functionality (for example the regional solution) that allows direct payment to the Constabulary for licences and other products.	The new website will deliver improved self-service functions to provide up-to-date information to customers, improving public perceptions about the service provided. Clearly defined and automated online processes and provision of accurate information will reduce demand for non-emergency services.

4.3.2 Transition state two (end March 2015)

This transition state will represent an increase in ICT investment for the Constabulary to deliver critical components of the target architecture. The delivery of the ATLAS project to implement an integrated crime management system represents the single largest initiative on the roadmap. Other key solutions delivered in this release include:

- Development of a mobile portal and initial mobile apps release for the Constabulary;

- Implementation of the upgraded regional command and control system; and

- Delivery of the upgraded rostering solution and integration with SAP HR.
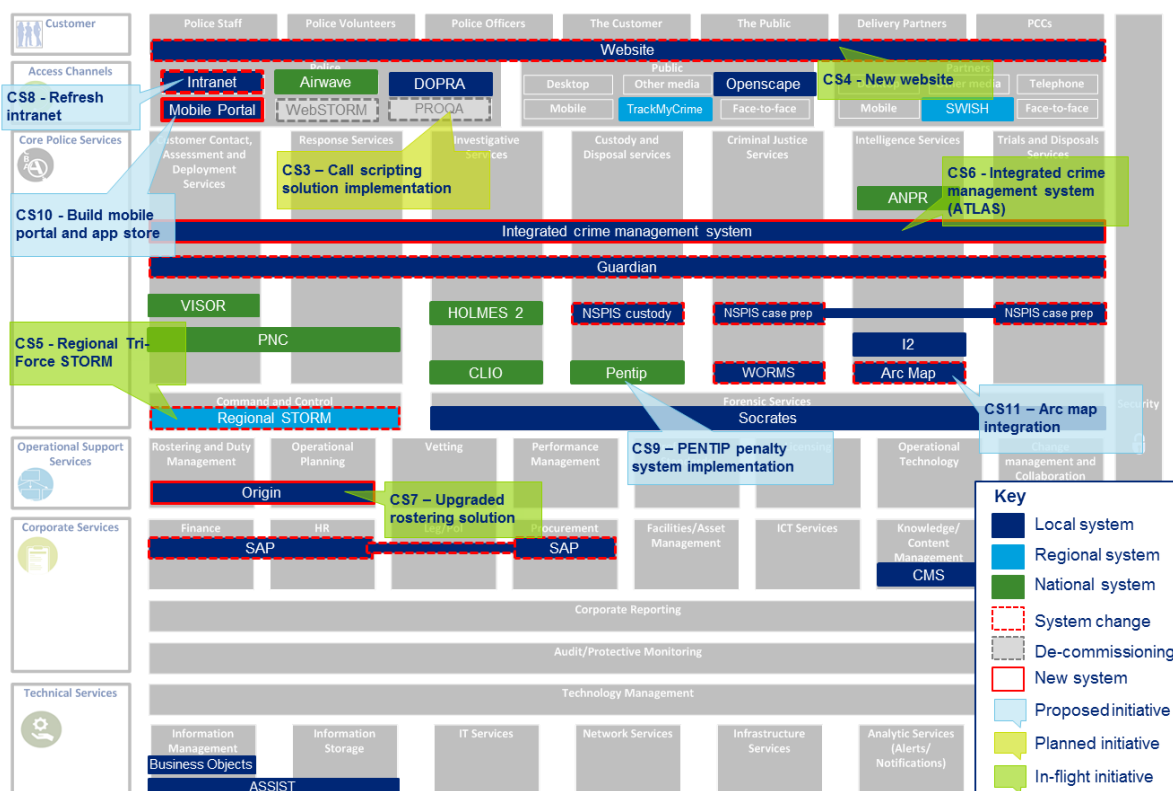

Figure 8 - Transition state two

The table below describes the initiatives called out in Figure 8 above.

Ref	Name	Description	Rationale
CS3	Call scripting solution implementation	Replacement for the force services centre's call scripting solution (ProQA) with a STORM module providing integrated call scripting capabilities for call takers.	A more integrated and interoperable solution (with STORM) than the existing system. Enabler for dispatch staff to receive pertinent incident information in a reduced timeframe to effectively inform and deploy units with minimal delay.
CS5	Regional STORM upgrade	Implementation of a Tri-Force Regional STORM solution which will operate on a thin client basis. This project aims to deliver a single command and control system for Avon and Somerset, Wiltshire and Gloucestershire constabularies. This solution will be inclusive of mapping functionality accessible on police end-user devices.	Establishment of a more efficient and collaborative regional platform will maximise economies of scale. Improved ability to respond to incidents by harnessing data available across other forces and co-ordinating response efforts across the south-west. Enabling more efficient resourcing for border incidents will enable better policing outcomes and reduced operating costs (for example, travel time and cost).
CS6	Integrated, investigation, crime recording, intelligence, custody and case preparation system	This project is procuring and implementing an integrated ICT system which manages business processes across the core areas of investigation (of all types), crime recording, intelligence, custody, case preparation and management of detained property to replace two of its core systems: Guardian (crime recording, investigations and property management) and (NSPIS) for Custody and Case Preparation.	Enables the fundamental change to significant parts of the Constabulary's operating model required to realise saving benefits and effectively deals with the business issue of NSPIS approaching its end of life. There is a desire to have greater integration between investigation, crime recording, intelligence, custody, case preparation and management systems to reduce the current administrative burden of manually re-keying crime information in a number of core systems.
CS7	Upgraded rostering solution (Origin)	Deployment of upgraded fit-for-purpose rostering solution that is capable of meeting the non-standard requirements of policing schedules. This initiative includes integration of this solution with SAP HR and should lay the foundation for predictive scheduling and planning of police officers shifts to match supply to demand.	This will meet the requirements of policing work schedules and will alleviate current pain points and the administrative burden surrounding software issues with entry of working time and double-keying.
CS8	Intranet refresh	Refresh of the Constabulary intranet (new system) to better organise content and deliver improved search functionality.	This will make it easier for Constabulary personnel to access up-to-date internal information they require to effectively carry out their day to day jobs.

Ref	Name	Description	Rationale
CS9	**PENTIP penalty system implementation**	Implement national fixed penalty solution (PENTIP) to replace the existing local VPFPO system. This solution will cover the management of penalty notices for driving offences, and those for disorder, which are issued for offences such as shoplifting and damage to property. This initiative will also need to consider how PNDs issued by Partner agencies feed PentiP.	Mandated by the national agenda. The system enables the Constabulary to access information on a single administration system, and allow the police to make cross boundary checks and share information. This will eliminate the paper based system for ticketing and speed up administration of notices.
CS10	**Mobile portal and application store development**	Build a mobile portal and mobile application store to enable officers and staff to access systems using mobile devices. This project scope includes: - building interfaces with the initial core systems accessible through the mobile portal; - selection of the eco-system to be used by mobile devices; - development of the initial set of Constabulary mobile applications This initiative does not include device procurement and deployment; covered by TE18 and TE19. It is important to note that the introduction of the new Emergency Services Network (ESN) (CS16) will provide the bearer for mobile telephony and mobile data including video transfer.	Provision of officers and staff with mobile devices to enable flexible access to pertinent data will enable the Constabulary to make better-informed decisions when working on the frontline. This will minimise the reasons for those working in a mobile environment to return to a station or other fixed 'touch down' point during their shifts to complete administrative tasks and will assist the Constabulary in reducing its estate and increase the time officers and staff are operational and visible.
CS11	**Arc map integration**	Integrate Arc map with additional data sources to make better use of the intelligence capabilities that the mapping solution provides. This initiative involves automating data loading where possible to minimise manual input by intelligence staff. This is a tactical initiative to make better use of existing tools prior to a longer-term assessment of mapping solutions as part of CS20.	Automating data integration with the mapping tool will reduce the amount of manual processing currently undertaken by intelligence staff and enable them to better use their time deriving valuable insight for the Constabulary.

4.3.3 Transition state three (end March 2016)

This transition state focuses on a number of initiatives to improve information management, data sharing and insight capabilities of the Constabulary as per the 'predictive and real-time insight' principle of the ICT vision. Initiatives delivered as part of this release include:

- Implementation of a data warehouse solution;

- Development of enhanced data analytics capability to utilise the information stored in the data warehouse and the digital content management system; and

- Implementation of a secure, regional collaboration hub (extranet) to enable automatic flow of information between service delivery partners and other constabularies.
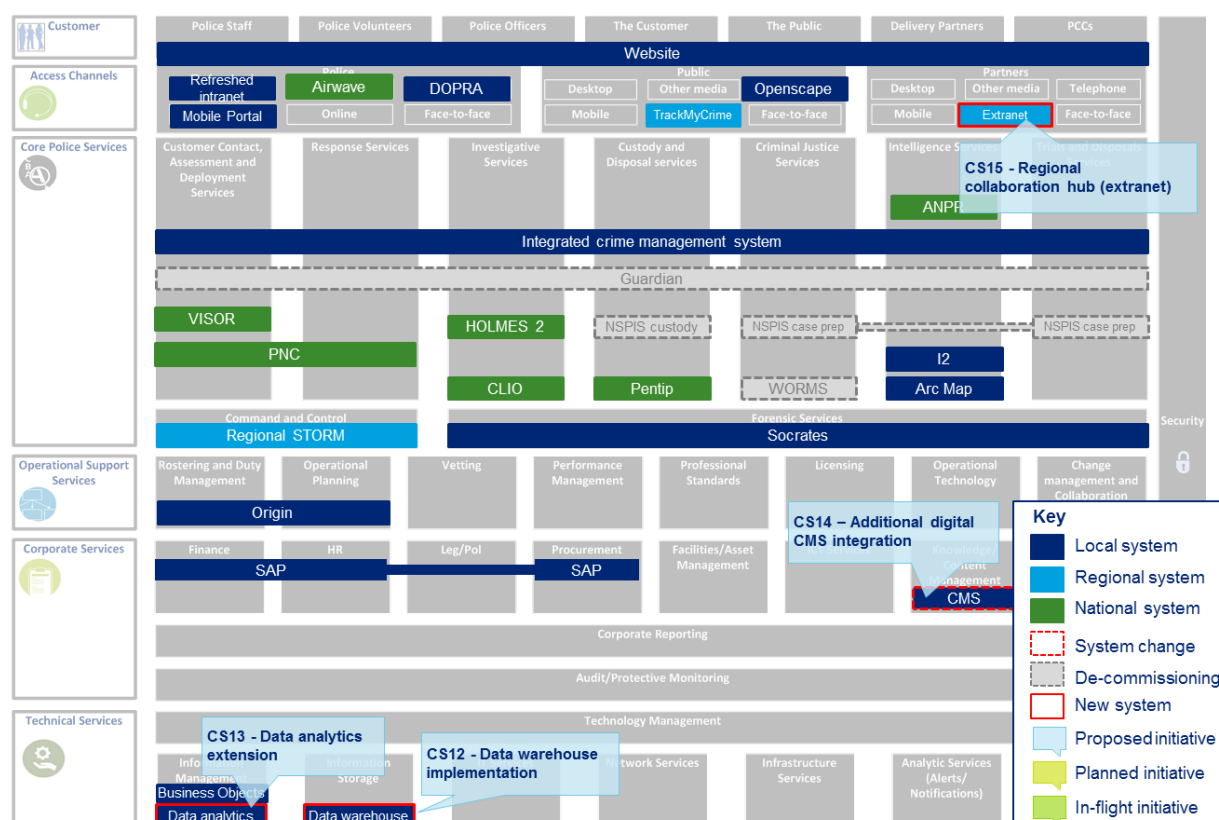
Figure 9 - Transition state three (end March 2016)

The table below describes the initiatives called out in Figure 9 above.

Ref	Name	Description	Rationale
CS12	**Data warehouse implementation**	Implement data warehouse solution to extend and / or replace ASSIST, leveraging standard data mart schema to improve data integrity across the Constabulary. This involves the following: - Systems architecture design and technology product selection - Development of schematic and physical data models and subsequent development of the ETL schema for data - Design of end user application	Optimise information flows and reporting to aid decision making and improve service delivery. Reduction in the requirement for manual data extracts to support use of existing systems. This is a key enabler for the Constabulary to achieve its aims of using predictive analytics to enhance policing service delivery where appropriate.
CS13	**Data analytics extension**	Deploy additional analytics capabilities to leverage insights from the information stored within the data warehouse. This may include the implementation of new technology tools for data analysis and visualisation or upgrades to existing tools such as Business Objects and i2.	Increasing the quality of information provided to officers will enable them to better protect vulnerable people and assist both the prevention and reduction of crime as well as the fear of crime.

Ref	Name	Description	Rationale
CS14	**Additional Digital content management system integration**	Creation of additional interfaces between the Digital CMS with additional systems to enable better insights. For instance, unstructured data analysis and building interfaces with mobile portals to enable this information to be better utilised by the Constabulary.	Currently, digital content is stored in multiple places, is difficult to search and is rarely exploited. In order to improve the ability to catalogue and search this content, a CMS solution will need to integrated with a number of sections. For example, the ability to carry out searches for individuals on CCTV footage using facial recognition technologies.
CS15	**Regional collaboration hub**	Build a regional extranet hub for automating data integration with other constabularies and partner agencies. The hub provides a standard method / protocol for partner agencies to share data and collaborate.	Further the regional collaboration agenda through automating the flow of information between partners where possible will reduce the amount of manual transfers of data and searches required.

4.3.4 Target state (end March 2018)

The final release outlines initiatives for the period 2016 to 2018. The initiatives outlined as part of this final release serve as a guideline only. ICT strategies should be revised on a continual or regular basis every 12 – 18 months to re-assess the technology environment and amend initiatives accordingly. Initiatives proposed for this period include:

- Upgrades to national policing systems as defined by the Home Office such as upgrades to PNC, HOLMES and a nationwide Airwave communications replacement (ESN);

- Implementation of a CRM solution to manage and track customer contact with the constabulary and to enable a victim-centric approach to serving victims and the public to be established; and

- Assessment of new analytical and mapping solutions to better enable the prediction of people and location risks and possible events.
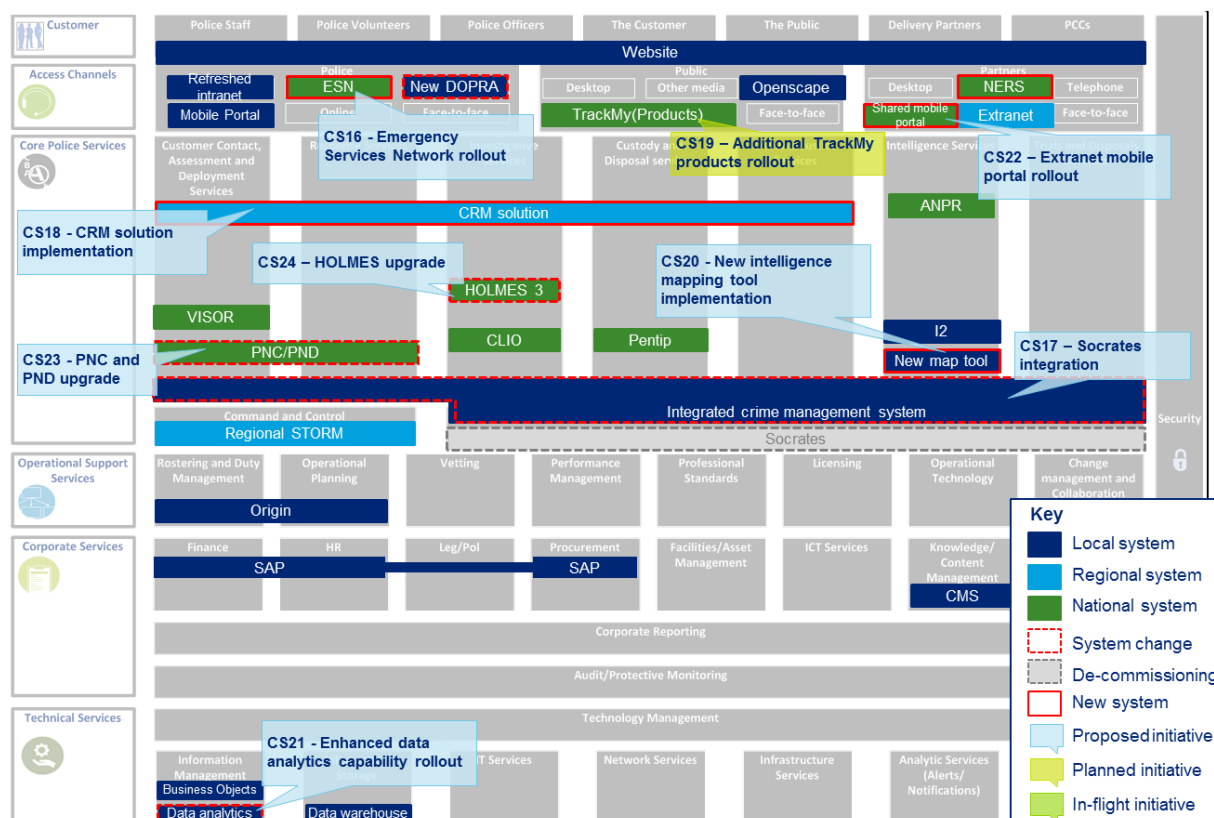
Figure 10 - Target state (end March 2018)

The table below describes the initiatives called out in Figure 10 above.

Ref	Name	Description	Rationale
CS16	**Emergency Services Network rollout**	Deploy the Emergency Services Network (ESN) to replace the Airwave communications system. This new network will be determined nationally that aims to provide increased functionality. This initiative also includes completing the upgrade to the DOPRA system.	The Emergency Services Mobile Communications Project (ESMCP) is a project driven nationally by the Home Office to deliver the ESN solution. The existing DOPRA interface provides an intuitive, accessible interface for command and control staff. The upgrade to DOPRA is required to support the implementation of the ESN by maintaining inter-operability during migration from the Airwave system to the ESN. It is important to note that the current DOPRA system is not compatible with a VoIP Telephony system or the new ESN system. If VoIP is being introduced at HQ then the DOPRA system will need to be upgraded to satisfy VoIP requirements and be ready for the ESN implementation. This dependency needs to be considered during the next stage of project prioritisation and detailed planning.

Ref	Name	Description	Rationale
CS17	Socrates integration	Integration of the existing forensic investigation system with the integrated investigations, crime recording, case preparation and crime management system delivered by ATLAS if this is feasible. The feasibility of a full consolidation of the two systems including de-commissioning of Socrates should be assessed.	Greater integration of forensic investigation to crime management, making this evidence more accessible to police officers and staff who require it during the course of investigations.
CS18	Customer relationship management for victims implementation	Development of a CRM type solution to manage and track customer contact and ensure a victim-centric approach to interactions with the Constabulary. This solution will need to provide police officers and staff with all the information from interactions with the individual including, where possible, integration of information from partner agencies. This initiative also includes the implementation of service driven automated text messaging for past victims and public.	Enhance customer/victim engagement, intelligence gathering, internal and external collaboration by having a single view of the customer across the Constabulary, local and regional partners and potentially nationally.
CS19	Additional TrackMy products rollout	Development of additional TrackMy products for national roll-out. (Web or mobile based) This involves investigating opportunities to engage with the public through robust self-service channels e.g. potential for certain non-emergency interactions provided by 101 also available via the web.	Track My Crime has provided a simple tool for the public to access information on crimes related to them and is expected to redirect non-emergency interactions to un-manned, low cost channels.
CS20	New intelligence mapping tool implementation	Deploy a new mapping tool to provide additional insight through the use of additional insights and overlays as the Constabulary's access to additional data sources from partners increases.	As the local, regional and national agenda progresses and automated information sharing is implemented it will be necessary to implement the next generation of mapping tool to best enable intelligence services..
CS21	Enhanced data analytics capability implementation	Enhancing the intelligence capability through implementation of enhanced predictive analytics solutions to make better use of new data sources.	The use of predictive methods will improve the efficiency and effectiveness of deployment of police officers and staff. This will be complementary and additional to the current capabilities. This may include sentiment analysis on social media for anticipating crime or geo-spatial mobile phone data to identify crowd build-ups for public order policing.
CS22	Extranet mobile portal implementation	Deployment of mobile portal onto the extranet hub delivered by initiative CS15 to deliver mobile applications for partner use. These applications will provide partners such as charities and health services with self-service access to information required to provide better services to the public.	Enabling local and regional agencies to complete specific enquiries for Constabulary information will better enable all services to provide a more victim-centric, holistic service to the public.

Ref	Name	Description	Rationale
CS23	**PNC and PND upgrade**	Deployment of updates to national PNC / PND solution. The precise scope of this initiative will be defined by the national policing agenda but may include consolidation of PNC and PND and / or mobile access to these tools.	This is a national initiative driven by the Home Office. Upgrades to the police national crime databases will need to be implemented to better provide the Constabulary with the information necessary to identify and detain offenders
CS24	**HOLMES upgrade**	Upgrade to the national major crime investigation system. The precise scope of this upgrade will be determined at a national level.	This is a national initiative driven by the Home Office. Upgrades to the national major crime investigation system will need to be implemented to better provide the Constabulary with the information necessary to identify and detain offenders.

5. Technology enablers

This section defines vision statements for key components of ICT technology. It includes a target vision for each area, key as-is state findings, assumptions that have been made to define the vision and the proposed initiatives that will deliver each vision. The initiatives to realise the visions have been classified as technology enablers for the overall ICT vision.

5.1 Data centre locations and technical service provision

This ICT component describes the sites that host ICT systems and equipment.

Vision	There will be a single primary data centre location at the Express Park PFI site. This data centre will make use of proven solutions, rather than cutting edge technology, with sufficient capacity for anticipated growth for the next five years based on the capacity planning model. The facility will be custom designed and built to meet data centre requirements, including reinforced flooring to deal with the heavy load, suitable electrical power delivery infrastructure, efficient heat dissipation and secure site management. There will be a single secondary site at the existing data centre location at the Constabulary headquarters in Portishead, benefiting from the investments already made in today's data centre capabilities. The existing risk of the water tank on top of the building will be managed outside of any ICT strategy projects as part of the estate. All new Constabulary technical services with a hosting requirement will by default host those services out of the primary data centre, for instance the future planned customer relationship management system except where the business case demonstrates the value of hosting the service elsewhere. All new shared regional and national technical services with a hosting requirement will be encouraged to host their services from a single location, technical solution permitting, which it is expected Express Park would be one of the candidates for. The precise location will be determined by the business case and solution design for the project implementing the new service. A full, up-to-date asset list will be centrally held and maintained. This will include all hardware and software assets, both within the data centre and those either issued to users or based in fixed locations like regional policing branches and back office locations. This asset inventory will be used to inform the business case of any infrastructure investment plan involving either the procurement or retirement of assets.
As-is findings	The current primary data centre at police headquarters does not have capacity for expansion and has some structural limitations.
Assumptions	The long-term benefits of moving to a single, fit for purpose data centre outweigh the investment costs. The impact of moving the primary data centre on people providing technology services today is manageable.
Required initiatives and status	TE1 – Primary data centre migration - (Proposed) TE2 – Accommodation programme - (In-flight)

5.2 Data centre server technology principles

This ICT component consists of the underlying technology hardware, as well as the operating system and management tools used to run Constabulary applications.

Vision	The hardware in the data centre used to host core systems and other technology services will have been proven to operate successfully elsewhere. New, innovative hardware will not be introduced into the data centre until it has been proven elsewhere. All hardware will be refreshed regularly so as to remain within an in-date maintenance agreement, typically between every three to seven years. The default choice of core systems operating system will be a proven Windows platform, in general at least one generation behind the newest product. For instance with Windows 8 being newly released, Windows 7 should be the newest operating system currently in the server estate. The operating system on which core systems depend, such as the new integrated crime management system, will be upgraded as and when required to ensure they remain within support. The only exceptions to this will be where a business case shows that adopting a different operating system platform, for instance Linux, has other significant benefits or the operating system upgrade requirements, for instance Windows NT to Windows 7, would be significantly more expensive than specialist maintenance contracts once the risk factor is accounted for. Cloud principles will be adopted across the estate, leveraging the principles of server virtualisation, standardisation and automation. The levels of virtualisation will exceed 80%, with all new services designed and implemented fully adopting the cloud principles. Clear principles will be established on set up, management and decommissioning of development, test and production environments.
Required initiatives and status	TE9 - Server refresh - (Proposed) TE10 - Server virtualisation implementation - (Proposed) TE11 - Server operating system upgrade - (Planned) TE12 - Core system performance enhancement - (Proposed)

5.3 Data storage and management

This ICT component consists of the sources of data wherever it is retained at rest in the ICT environment. It includes databases, shared drives and document management systems

Vision	All data storage will be in electronic format, except where there is an overriding requirement to keep paper records. Centralised data storage will be provided from a fit-for-purpose Storage Area Network (SAN) located in the data centre. All core system data will be held on the SAN, except where there is a need for remote or real-time access to cached data. The data warehouse and associated data marts for predictive analytics and reporting capabilities. There will be spare capacity available for a minimum of 12 months predicted usage, informed by a capacity model. As projects progress they will feed their requirements into the storage model so it is maintained. Distributed storage will only be used to meet specific system requirements or to support specified end user activities, such as file sharing hubs for regional collaboration or data snapshot on remote devices being used by operational officers and staff. End user devices will need to maintain snapshots of data from, as a minimum, Storm and the new Content Management System (CMS) and be capable of uploading new master data on-demand. An example of this would be an electronically created witness statement or video evidence provided to an officer on a flash storage device (e.g. a memory stick) or using wireless technology (e.g. Bluetooth) may need to be downloaded as soon as the officer finishes with a witness. Data will be actively managed to defined tiers to ensure the optimal cost and longevity of data. These will be complemented by backup, archiving and clear down policies for each core system and end users. For instance police officer and staff emails will regularly be archived, whereas electronic evidence data will be kept in active storage for longer periods of time. The Constabulary's sustainability agenda must also be considered by implementing a cost effective and energy efficient ICT estate, which is fully exploited, with reduced environmental impacts to enable new and sustainable ways of working for the Constabulary. This would also be demonstrated by achieving at least level 3 of the Green ICT Maturity Assessment Model and considering the implications of the "Greening Government: ICT Strategy" for this ICT Strategy
Assumptions	Volumes of data are such that implementing an archive solution is not cost effective Use of Blackrock storage location for magnetic backup tapes will continue
Required initiatives and status	TE13 - Build storage capacity model - (Proposed) TE14 - SAN refresh - (Planned)

5.4 Network design and data transmission principles

This ICT component consists of the networking equipment within sites, local area networks and wide area networks.

Vision	The Wide Area Network (WAN) will be provided by a single default supplier, leveraging Public Sector Network (PSN) procurement arrangements wherever possible. This will use a 'hub-and-spoke' model centred around the primary and secondary locations. There will be a primary and secondary connection to each regional branch, both connections meeting the latency, bandwidth and quality of service requirements for that regional branch.
	Secure connectivity to other local, regional or national agencies will be through links between each data centre and the backbone PSN network. The only exceptions to this will be where core systems that are run on a regional or national basis are hosted elsewhere and require a dedicated connection as outlined in the implementing project's business case.
	The minimum security standard of network connection will be aligned to the delivery of data with an 'Official' security classification. Network connections to higher security standards will only be implemented where there is a specific requirement for the transfer of 'Secret' or 'Top secret' data. For instance the need for CID to speak securely by video conference may require additional layers of encryption between various regional branches. These connections will follow the underlying hub-and-spoke model.
	The Local Area Network (LAN) will have wired and secure wireless connectivity at all locations. The LAN will support Voice Over Internet Protocol (VOIP) telephone calls, video conferencing, core system access and other manual and automated data transfer needs, including the transfer of digital evidence where required. This will be based upon proven switching, routing and encryption hardware that will be refreshed regularly so as to remain within an in-date maintenance agreement.
	The capacity, latency and quality of service requirements of WAN connections will be informed by a network capacity model. This model will be managed by the networks team and should be updated by projects and other initiatives introducing new requirements for data transmission. LAN connections will be fit-for-purpose and reviewed on a bi-annual basis based on end user feedback.
As-is findings	The majority of non-core Constabulary sites have secondary failover connections that are not capable of supporting voice over internet protocol, the method used to support fixed line calls. It is also important to note that if VoIP is being introduced at HQ then the DOPRA system (CS16) will need to be upgraded to satisfy VoIP requirements and be ready for the ESN implementation. This dependency needs to be considered during the next stage of project prioritisation and detailed planning as it may require the relevant elements of initiative CS16 to be brought forward from its proposed completion in 2017/18.
Required initiatives and status	TE3- PSN-compliant WAN network - (In-flight)
	TE4 - LAN switch upgrades - (In-flight)
	TE5 - VOIP rollout - (In-flight)
	TE6 - Build network capacity model - (Proposed)

5.5 Disaster recovery principles

This ICT component consists of the ICT capabilities for recovery of systems, continuity of business services and recovery from disasters.

Vision	Disaster recovery facilities will be provided out of the existing data centre location at Constabulary headquarters in Portishead. All core systems will have a business criticality rating defined based on their level of usage and the impact a service outage would have. Disaster recovery services will be tailored to meet defined business continuity requirements. All core systems deemed 'Mission critical' will have a standby service provided capable of being switched over in a near real-time manner. For instance the command and control centre core system Storm should be able to instantly fail over to the secondary site with minimal user impact, assuming this is locally hosted. Other 'Mission Critical' systems will include the new integrated crime management system, the Constabulary website and the mobile app portal. Core systems with a lower level of business criticality will have the appropriate disaster recovery service. For instance the extranet set up for collaboration with other agencies may be defined as 'Important' and therefore have a swap over time of, for example, 2 hours. Lower priority and non-core systems deemed 'Minimal impact' will not have any disaster recovery services. Disaster recovery services will be tested regularly as part of business continuity planning.
As-is findings	Of the core systems, only STORM and Guardian have a back-up they can fail over to in the event of an outage.
Required initiatives	TE7 - Disaster recovery migration - (Proposed) TE8 - Establish business continuity testing plans - (Proposed)

5.6 End user and office based devices

This ICT component consists of the different types of end user equipment, both personally issued (including mobile devices and specialist equipment) and office-based devices for administrative tasks.

Vision	There will be a user device strategy that specifies for each role type the personally issued devices that that specific police officer or staff member should be personally issued with. That may include a dedicated laptop, tablet, mobile phone and other, specialist equipment (e.g. fingerprint devices, body cameras). The strategy must provide the ability to work out of the office close to 100% of the time, as well as enable them to follow relevant business processes across multiple devices in real-time. A good example of this would be being able to write down a witness statement on a laptop and then allowing the witness to read it back and obtain an electronic signature on a tablet device. This strategy will be informed by a cost-benefit analysis, with standard commodity devices used over high-cost specialised items, subject to design requirements. There will be a defined departmental device strategy for all middle and back office functions, the key difference being this will provide devices for the facilities rather than personal issue. The role and departmental device strategies will be complementary, so that an officer returning to the station can expect to use a shared scanner device that uploads materials directly to his personally issued laptop. This strategy will also be informed by a cost-benefit analysis. All devices will be selected based on ease of use and functional fit. They will be refreshed on a rolling basis rather than big-bang replacements. Police officer and staff role profiles will also be used to determine and grant system access rights. This will be updated in the event of a role change and subject to frequent sample audits.
As-is findings	Desktop operating systems have recently been upgraded to Windows 7 No end user device or office based strategy exists
Assumptions	Virtual desktop solution is not inhibited or prevented by poor remote access experience
Required initiatives	TE15 - Establish ICT support model for mobile apps - (Proposed) TE16 - Desktop virtualisation implementation - (Proposed) TE17 - End user email client services deployment - (Proposed) TE18 - End user device strategy - (Planned) TE19 - End user device rollout - (Planned) TE20 - Refresh printer and photocopier infrastructure - (In-flight) TE21 - Customer, user and partner channel strategy - (Planned) TE22 - Digital evidence capture devices deployment - (In-flight) TE23 - Vehicle tracking device deployment - (Planned) TE24 - Office device strategy - (Proposed)

5.7 Cybercrime

For those who commit cybercrime, the perceived risk from their activities is low, especially in comparison to traditional acts of crime. This sense of reduced risk, combined with an increase in digital asset storage amongst organisations has led to a marked increase in the level of cybercrime activity in recent years, as well as a significant increase in the level of attack sophistication.

A vision to address the issue of cybercrime has not been defined within this ICT strategy and there are already strong safeguards in place. However, there a number of high-level considerations listed below that should be considered as part of a cybercrime vision statement.

Increasingly sophisticated cyber threats require a new way of approaching security. Critically, to reduce risk, organisations must be able to manage and monitor the threats they face effectively and proactively. This approach can be summarised by the following points:

- **Prepare** - Commit resources to prepare Avon and Somerset Constabulary to defend against a targeted cyber-attack and to respond to an attack as it happens;

- **Aware** - Identify and predict what the targets and mechanisms of cyber-attacks will be. This necessitates having intelligence on the wider threat landscape as well as intelligence specific to the policing and (if available) the Constabulary;

- **Respond** - Be ready to respond to threat intelligence as it becomes available or indeed an attack, both at an organisation wide and technical level. Such a response will prevent and limit the damage of an attack and enable the capture of evidence and investigation processes that.

6. Delivering the strategy

6.1 Introduction

ICT is a complex part of any organisation and requires a range of capabilities to deliver the services appropriate to the business needs. In considering ICT, the capabilities, capacity and skills all need to be considered when assessing the requirements for the organisational design, which ultimately leads to the resourcing requirements to delivery day-to-day services and change. For instance by understanding the evolution of the core systems architecture decisions can be made about how strong the solution design capability for each technical skill set needs to be.

End-to-end governance of ICT is the other aspect that is crucial to delivering effective change. The planning, budgetary, resourcing and technical decision-making processes need to work in harmony with other change management activities. This enables the efficient management and delivery of ICT change within a wider change management function, whilst not losing sight of the importance of running day-to-day operations, such as making sure Oracle database patches are regularly applied.

6.2 The target capability state

The target capability state has been defined to enable the delivery the Constabulary's vision. This has been determined using the standard Deloitte ICT capability model and by defining the required maturity of each ICT process needed to deliver the anticipated technical changes.

For example, it is likely that increased demand will be placed on the ICT helpdesk so it is essential that a process to manage ICT incidents is defined, with a specified owner and tools that support resolution of incidents in a well-integrated way with related processes. This is currently being delivered by the ICT team.

Different maturity levels require different levels of financial investment, people and technology, with increasing requirements for higher maturity levels. Therefore, the target maturity needs to balances the desire for improved services with the cost of improving and running a more mature service.

Some capabilities that are particularly important need a different level of maturity, whether for policing, or in view of the requirements to deliver the ICT strategy. These include the capabilities responsible for the ICT strategy, service strategy and facilitate innovation in ICT require a defined process to track activities but a lower level of integration with other processes is required along with little need for supporting tools.

Conversely, there are a small number of capabilities that should be following well-defined, integrated and managed processes that are reviewed regularly for adherence. These include how resources are managed to meet demand for change and day-to-day services, how ICT assets such as software licences are tracked, the security of ICT people and systems, ensuring ICT business continuity in the event of an incident and the quality assurance capability, monitoring adherence to process.

Also in this group having a mature supplier relationship management function is also a high-priority. The breadth and complexity of the relationship with Southwest One necessitate a particular focus, both to ensure effective collaboration as well as good commercial and financial management.

The gap between the maturity level defined for the current capability state and the target is important as the gap will need to be addressed in order to successfully deliver the vision. The steps required to

close the gap will depend on the size of the gap, what the root cause of the capability gap are and the intensity of change demand being placed on the capability. For instance, a large gap with an urgent requirement may require additional resources to be brought in, whereas a less urgent gap can be addressed through training.

6.3 Immediate capability initiatives

The initiative roadmap and industry experience suggest four initiatives that need to be started immediately to deal with a number of high-priority ICT capability gaps that need to be filled in order to successfully deliver the vision.

6.3.1 Establish a strategy and architecture team

The Constabulary is about to enter a period of significant change where the roadmap for the future of ICT needs to be clearly understood at a detailed level. There are no overarching technical leads looking at innovative ways to deliver synergies and improve efficiency in technical solutions.

An architecture function should be established to take control of the strategic direction of ICT by formulating and communicating the vision for ICT, the target ICT state along with the technology roadmap, policies and guidance to realise it. Initially this should be a minimum of two roles, the enterprise architect and data architect, to act with other architecture and strategy functions beyond ICT as part of virtual team.

An enterprise architect maintains an understanding of evolving business needs and supports alignment of the ICT strategy and planning to these needs. They apply a consistent and integrated approach to delivery of ICT services and ensure all business and technology change is approached holistically, within the context of ongoing programmes. They promote ICT innovation and the effective and efficient use of ICT infrastructure, services and data.

A data architect is responsible for developing and maintaining a description of Constabulary data, how it is structured and used. The data architect will formulate the data strategy, the target and plan that realises maximum value from the Constabulary's data assets.

Establishing the architecture function allows the Constabulary set ICT direction and take ownership of its business applications and data. It achieves this by developing a holistic understanding of data across systems the development and application of a consistent target architecture and guidance.

6.3.2 Enhanced relationship management

The purpose of relationship management functions is to help share knowledge and collaborate between different teams. Sometimes it is difficult for one area of the Constabulary to understand the ICT needs of another area, for the complete pipeline of change demand, for instance projects, and ability to prioritise at a point in time. The need to communicate this information to external organisation such as suppliers adds a level of complexity.

To address this challenge requires empowered representatives from ICT who can talk to senior offices and staff from the Constabulary and act as an engagement channel for emerging project needs, escalate issues and foster a joint understanding of each organisation. An example of this would be understanding CID's need to communicate securely by video conference and ensuring the technology enabling projects receives sufficient focus, and making sure that issues are understood by the business so that there is not an escalation. There is an element of this today but given the

ambitions of the force and the level of change upcoming, this needs to be extended. This may require one or two additional dedicated roles.

6.3.3 Dedicated resourcing for projects

The roles and required skills required to deliver specific projects are defined in the project definition documents and factored into business cases. ATLAS for instance, identifies the resource profile required to deliver the project. These resource profiles are currently provided to Southwest One as an input to be used in the allocation of shared resources from a shared pool. However, these resources are not dedicated to a project and can change during the course of its delivery. This makes it hard to ensure resource continuity and an exact skill set match to the project role, which becomes more critical to success the larger and more complex the project is.

To address this issue, transparency and direct control of the allocation of resources to projects should be increased. This will enable large projects to be provided with dedicated individuals to meet their resource demand. This does expose points of potential failure where few specific technical skills exist, and this should be identified using a framework such as the skills for the information age to provide a mapping of the available capabilities to inform prioritisation decisions.

Dedicated resourcing can help to provide assurance that resources with the required skills and capacity are allocated to a project. This will help prevent the occurrence of incidents or challenges within BAU activity resulting in a distraction from the project's successful delivery.

6.3.4 Proactive capacity management

An ICT capacity plan is currently created, incorporating current system and infrastructure capacity. However this is not proactively managed to identify and incorporate medium and long-term business and ICT infrastructure requirements. The growing requirement for data intensive services, (e.g. video evidence) can result in current capacity quickly being reached or exceeded, impacting the quality of existing services.

An ICT function should define a future looking capacity plan covering a 3-5 year timescale in order to provide sufficient time for approval and prioritisation decisions to be made, and for appropriate consideration of the impact of these requirements to the target architecture and roadmap.

An initiative should be carried out to build a capacity planning model. This would document the capacity of the current environment, and be able to assess the changes in requirement from in-flight projects. This initiative would need to include a level of skills development as these do not currently exist.

6.4 Areas for re-assessment in 6-12 months

These following areas should be monitored and reassessed in six to 12 months' time to ensure they are meeting the Constabulary's needs:

- **End to end solution development –** This area is responsible for eliciting the Constabulary's business requirements, defining the technical requirements that will support these and providing or developing the solution that will meet them. There is an existing initiative to improve the business requirements standards to ensure they are suitable for the level of change due to take place;

- **Definition and management of ICT services and service levels –** Southwest One have proposed an initiative to describe each ICT service, potentially implementing a self-help portal for the delivery of some services and to automate fulfilment of simple requests, such as provision of a mobile phone;

- **Day-to-day ICT operations and maintenance –** This covers processes running and supporting ICT services on a day-to-day basis. This ICT operations work has been characterised as reactive in the current state. Southwest one have expressed an ambition to increase their ability to take a longer term, proactive approach rather than a reactive approach;

- **Service continuity management –** This area covers the resilience and recovery of systems, ensuring the continuity of the business in the event of an incident and recovery of systems and data in the event of a major disaster. The strategic data centre plan is being developed and agreed given the new purpose built PFI facility. Aspects of the ICT disaster recovery process are due to be tested early 2014;

- **People and talent management –** This covers the HR processes, skills and training required for ICT staff, as well as performance management. There is a proposal to investigate the ICT organisation model and increase the focus on personal performance measures that align with the business objectives and ICT strategy;

- **Financial management of ICT –** the ICT service costing, invoicing and charging processes are covered here. The perception exists within the Constabulary that the visibility of ICT spend is low. Consolidation of the projects onto a single plan should enable governance functions such as the change control board to assess the investment case for major change; and

- **Managing ICT assets –** Hardware assets include the servers, desktops and mobile devices that should be managed from procurement to decommissioning, and destruction of certain sensitive data storage. Software assets include the software licenses and bespoke software code and applications developed for the Constabulary. There is an initiative underway to audit the assets across the ICT environment, to support compliance and other requirements.

7. Roadmap & critical success factors

7.1 Introduction

The realisation of the ICT vision will occur through the delivery of change projects. It is envisaged that these change projects will be informed by the initiatives proposed within this ICT strategy roadmap.

The initiatives contained within the strategy will deliver a variety of benefits including direct financial and other broader and non-financial improvements for police officers and staff and members of the public. An example of direct financial benefits of delivering the proposed initiatives would be lower overall power usage through increased server virtualisation.

The vision will also deliver a greater choice and robustness of channels for the public to engage with the Constabulary and increase the responsiveness of the services it provides. Track my crime makes it very simple to find information on a victim's incident quickly, along with reducing the demand on the contact centre.

Finally, police officers and staff will also receive benefits such as improvements to the performance of the storm command and control system, used to log 999 calls by force service centre staff, making for a better user experience and therefore passing communications more quickly between responding officers and the caller.

7.2 ICT costs and potential investment requirements

The Constabulary's spending and policing data is analysed by the HM Inspectorate of the Constabulary (HMIC) against 42 other police forces. The diagrams and table below show the comparison between HMIC benchmarks and the Constabulary's ICT cost per head of the population and per Full Time Equivalent (FTE) Constabulary staff member
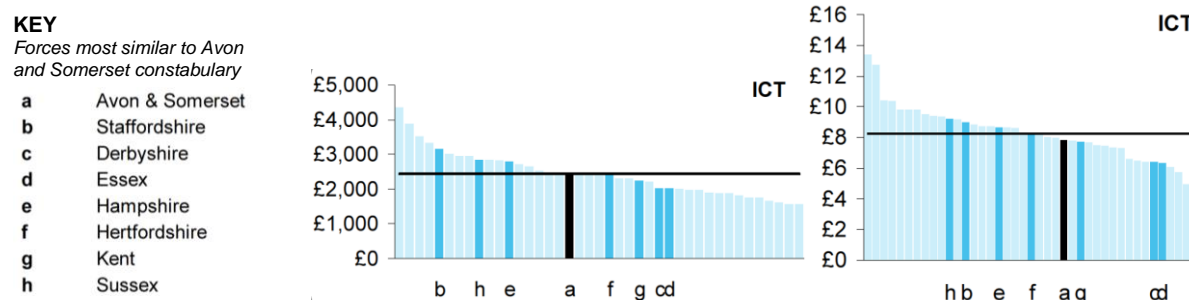
	ICT spend (per population)	Cost (per FTE)
National Average (£)	£8.30	£2,472
Constabulary cost (£)	£7.80	£2,435
Difference	-6% vs. average	+1.5% vs. average

The HMIC data shows that for cost per staff member and per member of the public is similar to other constabularies and that Avon and Somerset Constabulary sits in the middle of its peer group. The majority of current ICT cost is tied to fixed components of the Southwest One contract, specifically the unitary and service charge. Therefore, it is difficult to make a detailed comparison of the Constabulary's ICT cost to other police forces.

There is no consensus in the modern policing environment of a 'correct' level of spend. Therefore, a sensible target would be to maintain the Constabulary's relative position against its peers in the above measures. It is, expected, however, that increased spending over the next four years will be required in order to achieve the target state. More detail has been included in section 6, Roadmap & critical success factors.

These high-level investment costs of the proposed initiatives are estimated to be between £30-50m over a four-year period. This includes an allowance for ATLAS.

	Cost range	Number of initiatives
Business as usual	None	10
Low	£ 0 – 0.5m	22
Medium	£ 0.5 – 2.0m	16
High	£ 2.0 – 5.0m	3
Very high	£ 5.0m+	1

Three critical success factors have also been identified that will be essential to delivering the roadmap. These have been described at the end of this section.

7.3 List of Initiatives

To outline the high-level roadmap to guide the Constabulary's efforts to deliver the ICT vision the proposed initiatives will need to be prioritised. In order to enable this prioritisation exercise, initiatives have been assessed in terms of anticipated investment cost and expected benefits

Anticipated cost has been defined as an estimated magnitude of implementation investment costs above business as usual. For instance, conducting a routine operating system upgrade to maintain supportability would be categorised as business as usual with no additional cost. Where initiatives require additional investment over and above business as usual costs, these have been categorised as follows:

- **Business as Usual (BaU)** - No additional cost, this is covered by the Southwest One agreement / business as usual
- **Low** - Anticipated cost of initiative is up to £500k
- **Medium** - Anticipated cost of initiative is between £500k and £2m
- **High** - Anticipated cost of initiative is between £2m and £5m
- **Very High** - Anticipated cost of initiative is in excess of £5m

Expected benefits to the Constabulary where the categories are defined as follows;

- **Very low** - No direct business benefits are anticipated
- **Low** - Little to no direct business benefits anticipated, however this is a key technology enabler
- **Medium** - Significant direct business benefits anticipated
- **High** - High direct business benefits anticipated
- **Very High** - Very high direct business benefits anticipated and critical business enabler

When assessing the 'benefits' an initiative will deliver, estimates have been made as to the extent to which it will meet one or more of the following criteria;

- Driving direct cost savings for the Constabulary;

- Increasing the operational efficiency of police officers and staff;

- Improving the Constabulary's service delivery experience for the public and victims of crime

- Improving the working experience for police officers and staff

It is worth noting that these criteria do not include the mitigation of business risk to the Constabulary, for example through the replacement of aging or unsuitable infrastructure elements which may otherwise be defined as having 'low' benefits. Estimates of anticipated costs and benefits have been made based on experience and consultation with policing subject matter experts and should be treated as purely indicative. No detailed analysis or market sounding exercises have taken place and costs should not be relied upon to make any commercial decisions. These activities should all form part of the more detailed approach that is applied following prioritisation of the long-list of initiatives and selection of those initiatives to progress.

A complete list of initiatives together with descriptions and rationale can be found in Appendix A, Full list of initiatives.

Ref	Name	Cost Magnitude	Expected benefits	Status
TE1	Primary data centre migration	Medium	Low	Proposed
TE2	Accommodation Programme	Low	Low	In-flight
TE3	PSN-compliant WAN network	Low	Low	In-flight
TE4	LAN switch upgrades	BaU	Very low	In-flight
TE5	VOIP rollout	BaU	Low	In-flight
TE6	Build network capacity model	BaU	Very low	Proposed
TE7	Disaster recovery migration	Medium	Low	Proposed
TE8	Establish business continuity testing plans	BaU	Low	Proposed
TE9	Server refresh	BaU	Low	Proposed
TE10	Server virtualisation implementation	Low	Low	Proposed
TE11	Server operating system upgrade	Low	Low	Planned
TE12	Core system performance enhancement	Low	Medium	Proposed
TE13	Build storage capacity model	BaU	Very low	Proposed
TE14	SAN refresh	BaU	Very low	Planned

Ref	Name	Cost Magnitude	Expected benefits	Status
TE15	Establish ICT support model for mobile apps	Low	Low	Proposed
TE16	Desktop virtualisation implementation	Low	Very low	Proposed
TE17	End user email client services deployment	Low	Medium	Proposed
TE18	End user device strategy	BaU	Very low	Planned
TE19	End user device rollout	Medium	Medium	Planned
TE20	Refresh printer and photocopier infrastructure	BaU	Low	In-flight
TE21	Customer, user and partner channel strategy	Low	Very low	Planned
TE22	Digital evidence office device deployment	Low	High	In-flight
TE23	Vehicle tracking device deployment	Low	Medium	Planned
TE24	Office device strategy	Low	Very low	Proposed
CS1	Track my Crime For Other Forces deployment	Low	High	In-flight
CS2	Digital evidence content management system implementation	Medium	High	In-flight
CS3	Call scripting solution implementation	Low	Medium	In-flight
CS4	Website refresh	Low	High	In-flight
CS5	Regional STORM upgrade	Medium	High	In-flight
CS6	Integrated crime management system implementation (ATLAS)	Very high	Very high	In-flight
CS7	Upgraded rostering solution (Origin)	Medium	High	In-flight
CS8	Intranet refresh	Low	Medium	Proposed
CS9	PENTIP penalty system implementation	Low	Low	Proposed
CS10	Mobile portal and application store development	High	Very high	Proposed
CS11	Arc map integration	Low	Medium	Proposed
CS12	Data warehouse implementation	Medium	Low	Proposed
CS13	Data analytics extension	Medium	High	Proposed
CS14	Additional Digital content management system integration	Medium	Medium	Proposed
CS15	Regional collaboration hub	Medium	Medium	Proposed

Ref	Name	Cost Magnitude	Expected benefits	Status
CS16	National emergency response system rollout	Medium	High	Proposed
CS17	Socrates integration	Medium	Medium	Proposed
CS18	Customer relationship management implementation	High	High	Proposed
CS19	Additional Track My products rollout	Medium	Medium	Planned
CS20	New intelligence mapping tool implementation	Medium	Medium	Proposed
CS21	Enhanced data analytics capability implementation	Medium	Medium	Proposed
CS22	Extranet mobile portal implementation	Medium	Medium	Proposed
CS23	PNC and PND upgrade	Medium	Low	Proposed
CS24	HOLMES upgrade	Low	Low	Proposed
DS1	Establish a strategy and architecture team	Low	High	Proposed
DS2	Enhanced relationship management	Low	High	Proposed
DS3	Dedicated resourcing for projects	Low	High	Proposed
DS4	Proactive capacity management	BaU	Medium	Proposed

7.4 Prioritisation map

Each of the initiatives proposed has been prioritised according to the expected direct benefits delivered, labelled as initiative impact, and the level of urgency of the initiative.
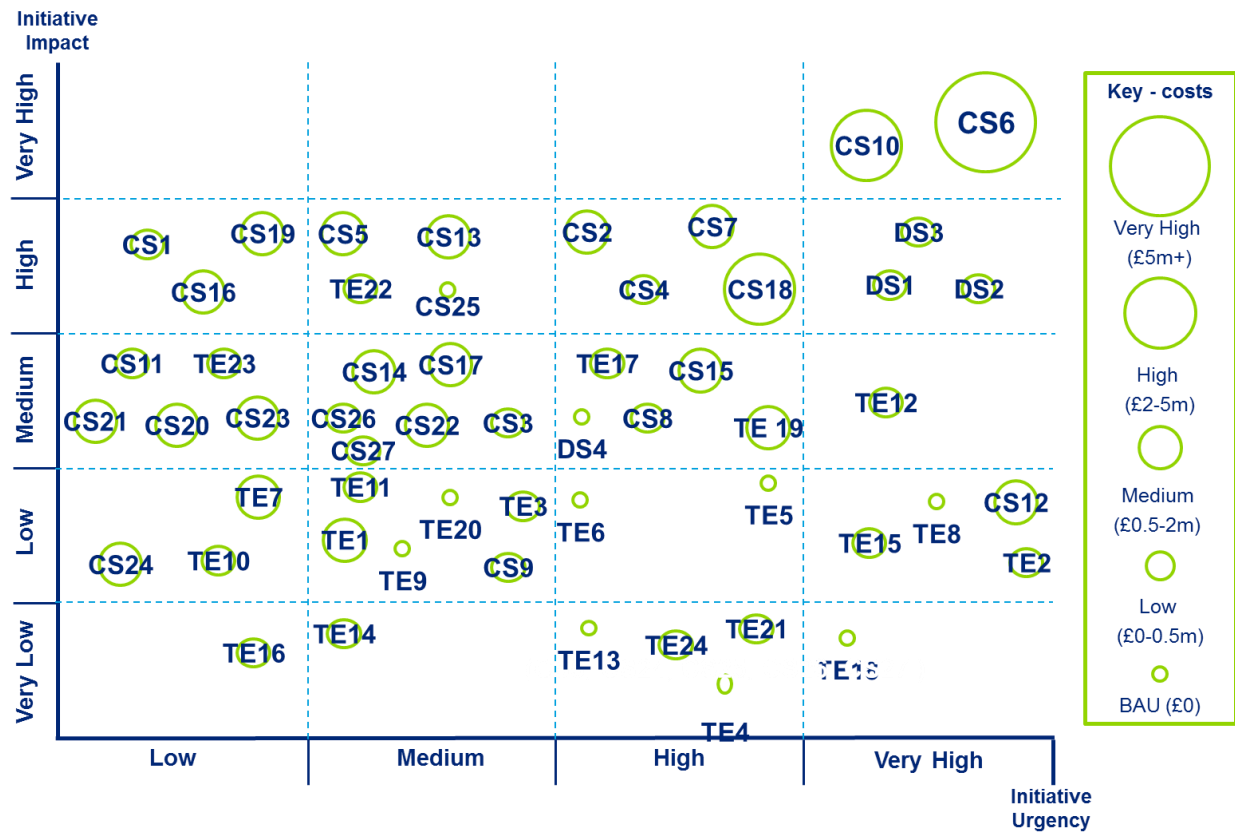
7.5 Delivering the vision roadmap

Each of the ICT vision principles will be delivered by a series of the initiatives proposed over the lifetime of the ICT strategy. These have been mapped out on the diagram below.
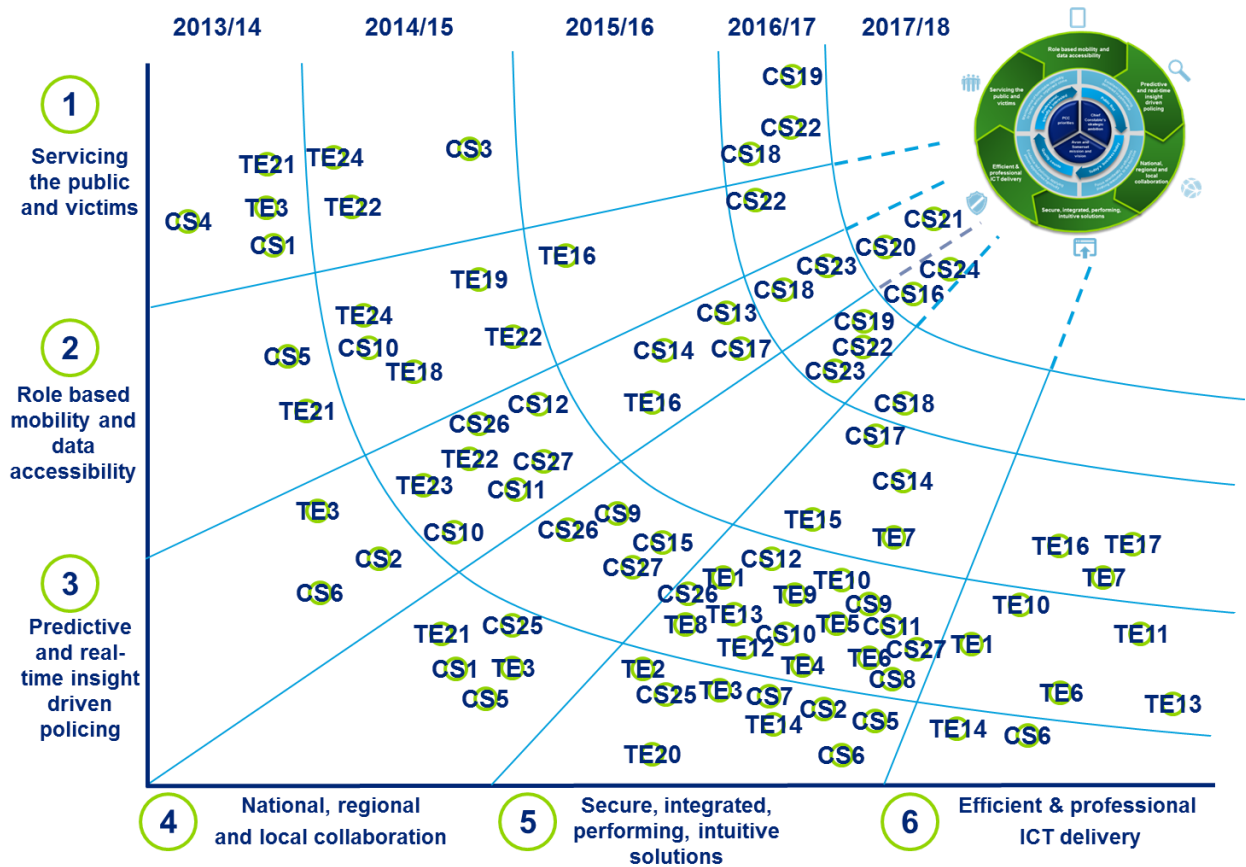
Figure 11 - Delivering the ICT vision roadmap

7.6 Planning roadmap

A high-level timeline is presented below. This shows the key initiatives from the ICT strategy roadmap over the next four-year period.

The suggested sequencing of initiatives takes into account the hard and soft dependencies that exist between initiatives. However, this does not represent a validated plan and would need to be refined as part of the strategic planning process.
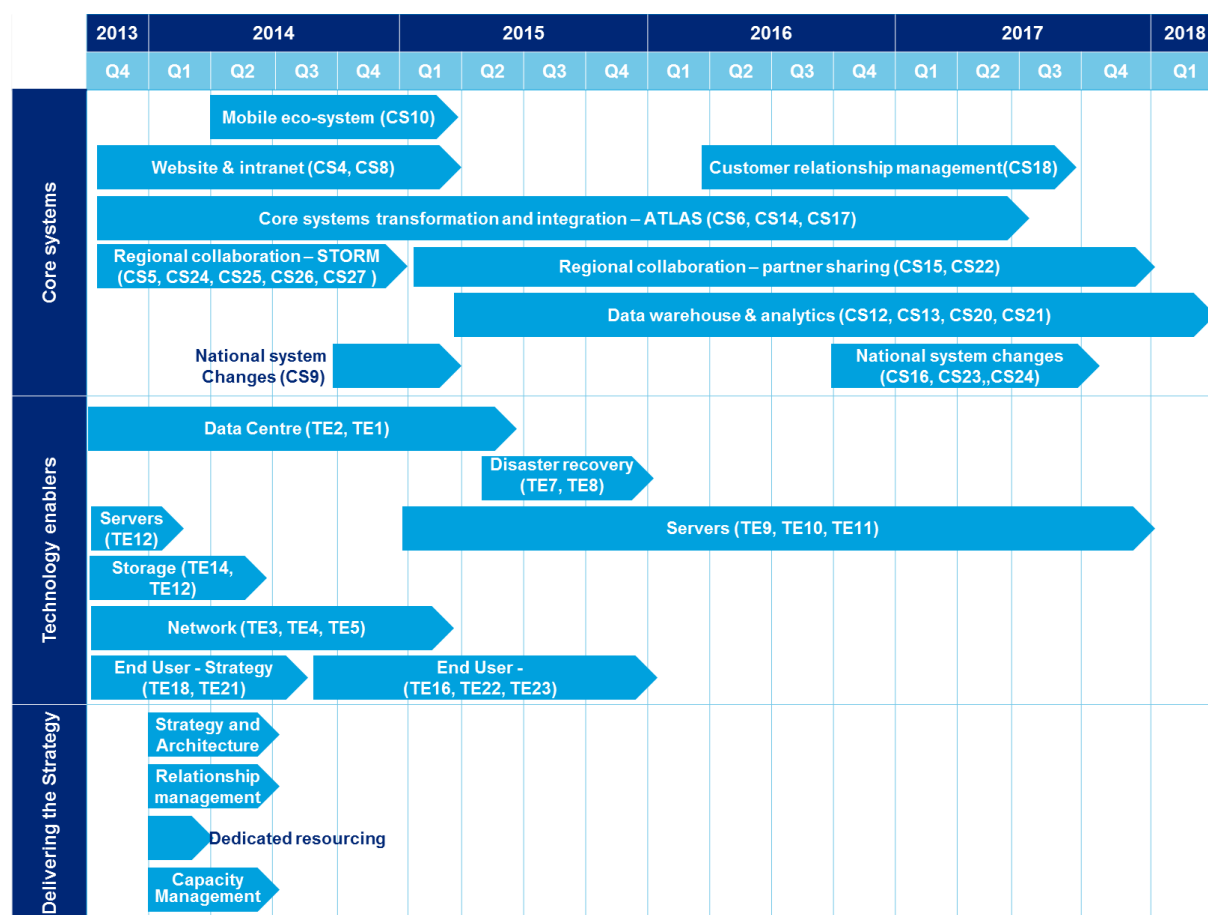
Figure 12 - Planning roadmap

7.7 Critical success factors

Delivering the ICT vision will be a major undertaking for the Constabulary over a period of a number of years with the scale of change envisioned having a major impact on the technical resources required, operational extraction rates, senior officer time, governance and degree of associated business change. A number of Critical Success Factors (CSFs) have been identified whilst developing the target states and the initiatives. Derived from a combination of observation, suggestions made by police officers and staff, members of Southwest One and broader industry experience based on the anticipated volumes of change, these outline steps needed to be undertaken in order to successfully deliver the ICT vision as defined. They are:

7.7.1 Plan for the delivery of the ICT strategy roadmap

The Constabulary needs to make decisions as to how it will proceed with the roadmap once validated and the implications have been absorbed. It is imperative management give sufficient focus and time to the decision making process, as experience elsewhere suggests this is often the hardest step of implementing a new ICT strategy roadmap.

The roadmap from the ICT strategy needs to be assessed against the other funding priorities of the Constabulary, and then a task force mobilised to forward the prioritised initiatives. This taskforce is likely to be drawn from the management layer of the Constabulary and Southwest One. The focus should then be on developing individual business cases to feed into the strategic planning cycle led by the Strategic Service Improvement team.

7.7.2 Develop a joint Southwest One action plan

The ambition of the Constabulary needs an action plan to be agreed collaboratively with Southwest One on what needs to be done differently in order to progress the ICT strategy. The current agreement provides a fixed supply of ICT change capacity from a single resource pool for a fixed cost for defined outputs. However, with the anticipated volumes of change likely to increase and be more complex, new ways of working are needed.

This may include a new Southwest One organisation structure, firmly dividing staff between:

1. A shared pool of resources for BAU activities and small projects, day-to-day tasked by Southwest One managed, to include all functions shared between all three Southwest One clients; and

2. A dedicated, named resource pool for medium and large projects to draw down on. Once resourced onto projects these resources would be day-to-day tasked by the project manager.

The implications are that for the dedicated, named resource pool there will be challenges drawing on specialist skill sets where only a fraction of a full time resource is required. This is outweighed by the benefits of resource transparency, continuity on a single project and reduced management overhead. This model could be trialled prior to commercial agreements being revised to formalise this arrangement.

It also provides the Constabulary with the opportunity to go-to-market to seek the additional skills, creating a level of competition in the ICT sourcing model.

7.7.3 Ensure the right business 'infrastructure' is in place

There are a number of business enablers, or pieces of business 'infrastructure', that need to be in place to assist delivery and management of the proposed roadmap. They are:

- **Business requirement standards and templates** – Business analysts are sourced from a number of different places, including Southwest One and the contractor market. Establishing strong central guidelines that include definitions for the level of detail needed and example templates would help bring consistency during the documentation phase, as well as managing stakeholder expectations at a detailed level. It would also show scope boundaries of individual projects where ICT requirements are defined but no solution planned, potentially placing a dependency on another project;

- **Design authorities** – A design authority is the decision-making forum for business and technical questions that have a long-term impact on ICT. They normally exist at two levels within a hierarchy; corporate wide (typically represented by a business design authority and a technical design authority) and within large complex programmes (represented by programme design authorities). An example of the decision to be made would be where three overlapping but complex interfaces between two systems could be built point-to-point or via a hub, that then potentially could be extended in the future. These forums need to be established as soon as possible given the complexity of planned change and the potential to create huge future run costs by making tactical rather than balanced strategic decisions now;

- **Corporate data model** – Much like a map describes key places of interest and the roads linking them together, a data model shows where within the technology environment, data is stored and how data flows between them. A master data model also helps to understand who can create new data, who can update it and how it is controlled. This can be a particular problem when multiple people can change details in different systems, resulting in data that can no longer be joined together and is therefore of limited value. The corporate data model allows projects creating and changing data models to understand how it needs to fit into the bigger picture from across the constabulary, and beyond;

- **Focus on ICT training and other business implementation activities** – Increased levels of investment need to be focused on embedding change once it has been released from a technology viewpoint to maximise the benefits derived from the investment. This is equally the case for training in current systems to ensure maximum benefit is derived from existing investments. Lessons should be learned from other forces and major public sector transformation programmes in terms of the need for this investment and the link to benefits realisation. Police officers and staff should receive training for major ICT system and infrastructure changes and be assisted by project team members to help ensure their transition from old systems and ways of working to the new is smooth and successful. Projects should ensure these activities are prioritised appropriately when managing their budgets and consider how post-project training structures and approaches (such as the approach to refresher training and 'system new joiners') can be established to improve the long-term benefits that are realised from the investments that are made. Appropriate consideration also needs to be given to the service transition phase of the projects to ensure early engagement with, and an effective handover to, Business As Usual functions (such as the IS Service Desk) of new systems and infrastructure to allow them to maintain system / hardware availability levels and provide a sound basis for future developments; and

- **End-to-end ICT organisational alignment** – The majority of ICT services are provided by Southwest One. Some ICT services are provided outside of Southwest One, for instance the Guardian core system application maintenance team and the information security team. It is important the end-to-end organisation is aligned to ensure all projects can readily access the necessary subject manner experts across all technology area.

8. Next steps

The following sections outline the keys tasks required to move the strategy forward.

8.1 30 day plan

The activities to be completed within 30 days of sign off of the ICT strategy at COG include:

Communicated new ICT strategy to the Constabulary – Following ratification of the ICT strategy at COG, it will be important to widen the group of people with whom the ICT strategy is socialised to aid both understanding and buy-in to the ICT vision, the underlying principles and initiatives and to assist in informing the ongoing development of the ICT strategy thereby ensuring it continues to reflect the priorities and ambition of the Constabulary;

Ensured alignment of current projects to ICT vision – As part of prioritising the proposed initiatives, it is important to determine the degree of alignment with existing projects, both planned and in flight, in order to identify both the projects that should be re-scoped or potentially stopped and those that could be accelerated, as well as the actual additional investment that is required to fund the prioritised portfolio of proposed ICT initiatives;

Confirmed the ATLAS decision – The ATLAS project is the largest initiative within the ICT strategy roadmap, not only in terms of investment, but also in its significance in transforming the Constabulary's core systems architecture and acting as an enabler to major business change. Timely decision making, for example in awarding the contract to the preferred supplier, while ensuring best practice project principles and governance arrangements are being followed, such as working effectively with the new corporate design authority, will be essential to reduce the inherent delivery risk associated with such a complex project;

Established design authorities for larger programmes – This activity will scope, define and implement design authorities for the larger programmes that will consider the overarching design questions or issues of the programme, and which have the remit and authority to take the appropriate decision, and actions to resolve any issues, and ensure that the overall integrity of the solution design and requirements is maintained to ensure that the solution delivered to the business is fit for purpose. It will also ensure that these design authorities interact effectively with the corporate design authority;

Scoped a holistic, corporate data model exercise – This activity will define the scope, activities and outputs associated with a project to define a corporate data model for the Constabulary that shows where within the technology environment data is stored and how data flows between the core systems within the enterprise architecture.

Completed the mobile strategy project – Completion of the mobile strategy project will not only define the vision and strategy for the use of technology in a mobile environment, but will also define: the key business requirements that such technologies will address; the associated indicative costs and business benefits; the required application, integration and infrastructure architectures as well as the underlying standards; the ICT support model to develop and maintain mobile apps and the wider mobile eco-system; and the roadmap of activities to achieve the target mobile vision.

8.2 60 day plan

The activities to be completed within 60 days of sign off of the ICT strategy at COG include:

Finalise approach to funding ICT strategy projects – The aim of this activity is to finalise the funding arrangements associated with implementation of the ICT strategy for both ongoing and newly identified projects from both a capital and revenue perspective;

Planned ICT strategy projects into change management roadmap – For those ICT projects that have been defined and planned, it is essential that they form part of the overall change management roadmap as the planning, budgetary, resourcing and technical decision-making processes need to work in harmony with other change management activities. This enables the efficient management and delivery of ICT change within a wider change management function, whilst not losing sight of the importance business as usual operations;

Commenced ICT strategy project business case development – For those initiatives that have been prioritised and planned, the commencement of the development of an outline business cases will not only confirm the strategic need for the output(s) from the project, but also consider the value for money it offers and confirm that it is financially affordable;

Developed a detailed information management roadmap – This activity will define the scope, activities and outputs associated with a project to develop an information management roadmap for the Constabulary that defines the set of business processes, disciplines and practices used to manage the information created from the Constabulary's data as an enterprise asset;

Scoped the initial activities for the new strategy and architecture team and commence detailed analysis – This activity will define the scope, activities and outcomes to be achieved by the new strategy and architecture team, as well as undertaking some initial work in readiness for establishment of the team; and

Agreed an action plan with Southwest One – The purpose of this activity is to define and agree an action plan with Southwest One regarding what needs to be done differently in order to progress the ICT strategy.

8.3 90 day plan

The activities to be completed within 90 days of sign off of the ICT strategy at COG include:

Recruited the enterprise and data architects and the additional relationship management role(s) – Completion of the recruitment and on boarding activities associated with establishing the strategy and architecture and enhanced relationship management capabilities for the Constabulary;

Commenced trial of new arrangements with Southwest One – Having agreed the action plan, it will be essential to trial the proposed changes to the resource allocation, operating and reporting arrangements to ensure that they meet the requirements of the Constabulary and are sustainable from Southwest One's perspective; and

Mobilised teams to deliver the new funded ICT strategy projects – This action relates to the mobilisation of the project structures, capabilities and other resources required to deliver the agreed and funded ICT strategy projects.

Appendices

A. Full list of initiatives

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
TE1	Data Centre	Proposed	**Primary data centre migration**	Data centre move project which includes: - Migration strategy for move to PFI Express Park - Complete migration to Express Park site which should merge with the planned SAP migration project	Designating the new PFI Express Park site as the new primary data centre will leverage the custom designed, fit-for purpose location and provide the constabulary with significant capacity for growth, particularly in areas such as the hosting of regional systems.	Medium	Low	Q2 2014/15	**6 - 12 months**
TE2	Data Centre	In-flight	**Accommodation Programme**	Deployment of ICT infrastructure in new locations (including PFI locations) and migration of necessary services to provide the required ICT support. This includes installing core infrastructure such as LAN and WAN connections and office equipment.	In-flight initiative required to ensure that constabulary locations are fitted with the relevant infrastructure and ICT support to provide effective policing services to the public.	Low	Low	Q4 2013/14	**3 - 6 months**
TE3	Network	In-flight	**PSN-compliant WAN network**	Deployment of a PSN compliant WAN network of a sufficient bandwidth to support ASC networking requirements. This activity also includes the implementation of encryption and security controls to ensure compliance with PSN standards (IL3 security).	Secure connectivity to other local, regional or national agencies will need to be through links between each data centre and the backbone PSN network to ensure compliance with mandated security and encryption guidelines. In addition, the WAN network initiative is needed to ensure that sufficient bandwidth to meet the requirements of bandwidth-heavy projects such as VOIP and video conferencing.	Low	Low	Q4 2013/14	**3 months**
TE4	Network	In-flight	**LAN switch upgrades**	Refresh of LAN switch equipment to ensure that it is in-support and capable of supporting the deployment of new technology initiatives such as VOIP and video conferencing planned by the constabulary.	LAN switch equipment will need to be in-support to mitigate the risk of network failures. LAN equipment will also need to be functionally capable of supporting VOIP and video conferencing in order for the benefits delivered by these initiatives to be realised.	BaU	Very low	Q1 2014/15	**6 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
TE5	Network	In-flight	**VOIP rollout**	Deployment of voice over IP (VOIP) technology is comprised of two components: (1) VOIP rollout to users from an application and end user device perspective (2) Activities to assess and upgrade infrastructure where needed to support VOIP deployment. This includes addressing both LAN and WAN infrastructure	This will provide the constabulary with a more cost effective telephony solution which avoids call charges from telecoms providers. In addition, the reduced dependency of ASC police and staff on fixed lines will better enable the constabulary's mobility and remote working agendas as per the ICT vision.	BaU	Low	Q2 2014/15	**6 months**
TE6	Network	Proposed	**Build network capacity model**	Build network capacity model to be utilised as part of business as usual to ensure that capacity planning of network infrastructure is properly aligned to the future needs of the constabulary	This is essential in establishing a model whereby forward-looking capacity planning aligned to ASC's planned initiatives ensures that WAN network acts as an enabler for the constabulary and not a blocker.	BaU	Very low	Q1 2014/15	**2 - 3 months**
TE7	Disaster Recovery	Proposed	**Disaster recovery migration**	Migrate disaster recovery services for relevant core systems to single location at Avon and Somerset Police HQ. This initiative includes: - Prioritisation of core systems to determine the level of disaster recovery required for each and subsequent creation of a migration plan - Migration / establishment of required fail-over capabilities for relevant systems at the existing data centre at ASC HQ	Effectively mitigates the existing risk that the constabulary are unable deliver effective critical policing services to the public in the event of an outage at the primary site. Leveraging the existing site at HQ ensures investments already made in today's data centre capabilities continue to be of benefit to the constabulary.	Medium	Low	Q1 2015/16	**3 - 6 months**
TE8	Disaster Recovery	Proposed	**Establish business continuity testing plans**	Some business continuity plans exist in the current state but these are not tested. This activity will establish business continuity testing plans with defined processes in place for mitigation of the effect on maintaining a policing service in the event of a failure of core systems.	In order for the constabulary to have a degree of confidence in the level of emergency preparedness, it is important to test the business continuity plan at regular intervals. Regular testing will establish whether the plan effectively mitigates the risks of disruption of public service by outages to core systems.	BaU	Low	Q1 2014/15	**2 - 3 months**
TE9	Servers	Proposed	**Server refresh**	Holistic activity to upgrade server hardware based on currency of estate in-support. This includes a holistic assessment of the existing estate to identify those servers that are out-of-support and/or approaching end of life followed by carrying out subsequent upgrades / replacements of hardware as required.	Ensuring server hardware is within an in-date maintenance agreement minimises the risk of failure and is also a key enabler for the hosted systems to operate in a fast and reliable enough manner to not negatively impact officers and staff as per the ICT vision.	BaU	Low	Q3 2014/15	**24 - 36 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
TE10	Servers	Proposed	**Server virtualisation implementation**	Virtualisation initiative to accelerate virtualisation of server estate. This initiative will involve a holistic assessment across all server types to identify opportunities to virtualise the estate in order to achieve the target of 80%. This activity will subsequently plan and execute this initiative which will include carrying out any updates to core systems that are affected by this project as required.	Increased virtualisation of the server estate provides potential efficiency savings through reduction in physical server requirements and subsequent reduced footprint and power and cooling requirements.	Low	Low	Q3 2014/15	**24 - 36 months**
TE11	Servers	Planned	**Server operating system upgrade**	Holistic activity to upgrade server operating systems based on currency of estate in-support. This will involve an assessment of the state of current server O/S, planning and delivering of required upgrades, and subsequent testing and updates of core systems affected by the server upgrades.	Ensuring server operating system on which core systems depend, such as the new integrated crime management system, will need to remain in support to mitigate against the potential impact of an operating system failure.	Low	Low	Q3 2014/15	**24 - 36 months**
TE12	Servers	Proposed	**Core system performance enhancement**	Identify root cause of core system performance issues such as end-user reliability, login times and latency, and implement necessary fixes.	Directly addresses the ICT principle that core systems will be secure and robust, operating in a fast and reliable enough manner to not negatively impact officers and staff. This is particularly relevant with respect to systems used by the dispatch and command and control functions to ensure rapid response to emergency calls.	Low	Medium	Q1 2014/15	**2 - 4 months**
TE13	Storage	Proposed	**Build storage capacity model**	Build a storage capacity model based on predicated usage of new digital evidence (CCTV, video conferencing etc.). This model will need to be maintained and updated on a regular basis with planned project storage requirements to ensure sufficient storage capacity is available.	This is essential in establishing a model whereby forward-looking capacity planning aligned to ASC's planned initiatives ensures that sufficient storage is available for the constabulary. This is a key enabler for the constabulary to better make use of the growing importance of digital evidence from sources such as CCTV, video interviews, digital images captured by the public and police officers.	BaU	Very low	Q1 2014/15	**1 - 2 months**
TE14	Storage	Planned	**SAN refresh**	SAN performance upgrade initiative to enable more efficient MS Exchange functionality. This initiative should be informed by the storage capacity model in order ensure that SAN latency does not prevent users from effectively accessing e-mail functionality.	To enable the storage of various data types, including the expanding requirement to store large volumes of digital information.	BaU	Very low	Q3 2013/14	**3 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
TE15	End User	Proposed	**Establish ICT support model for mobile apps**	Setup ICT support model to develop and maintain mobile apps. This support model will include establish of a mobile support team to provide technical support for planned mobile apps and eco-systems.	There will be a requirement for ICT support for the proposed mobile initiatives across the Constabulary to resolve technical issues / tickets relating to mobile devices and apps.	Low	Low	Q1 2015/16	**3 - 6 months**
TE16	End User	Proposed	**Desktop virtualisation implementation**	This initiative will provide virtual desktop images for use on Constabulary desktops and laptops and centralise the desktop client environment for support and maintenance purposes.	Application execution takes place on a remote operating system over the network to minimise the need for local storage of data. Establishes a more centralised, efficient client environment that is easier to maintain and able to respond more quickly to the changing needs of the users and the Constabulary.	Low	Very low	Q2 2015/16	**6 - 9 months**
TE17	End User	Proposed	**End user email client services deployment**	Initiative to roll-out email, calendar and directory services in a single e-mail client for front line police officers and staff. This will need to be accessible by all user devices and provide an intuitive, user-friendly solution (phones, tablets, toughbooks etc.)	Enabling officers and staff to be able to quickly complete administrative tasks such as checking ASC emails, booking meetings, locating contact information for key departments and/or third party agencies will minimise time spent completing these tasks in stations or contacting the FSC for this information.	Low	Medium	Q2 2015/16	**3 - 6 months**
TE18	End User	Planned	**End user device strategy**	Definition of a user device strategy that specifies for each role type the personally issued devices that that specific police officer or staff member should be personally issued with on a personal basis. This will consider both mobile devices as well as specialist equipment such as body cameras and fingerprint scanners. Procurement and device roll-out will be covered as part of initiative TE19.	A visualisation of the digital user experience for each stakeholder group will be required to factor in specialised and local requirements, as well as giving an opportunity to communicate and gain buy in for overall mobile vision and strategy with police officers and staff. This is a pre-requisite to any initiatives rolling out mobile devices across the Constabulary to ensure that requirements are well understood and potential benefits from mobile devices are realised.	BaU	Very low	Q1 2014/15	**2 - 3 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
TE19	End User	Planned	**End user device rollout**	Deploy end user devices as per the strategy (TE18) to the various user roles identified. This initiative includes the trialling of candidate device types, selection of preferred devices and subsequent deployment of same. The initiative will also include end user training where required to ensure that police officers and staff obtain anticipated benefits from the initiative.	Front line resources will be accessible and visible across Avon and Somerset and better enabled to service the public by minimising time spent completing administrative tasks in police stations.	Medium	Medium	Q4 2014/15	**3 - 6 months**
TE20	End User	In-flight	**Refresh printer and photocopier infrastructure**	Refresh of office hardware covering both printers and photocopiers to ensure that devices remain in support and fit for purpose.	Ensures that police officers and staff are enabled to carry out day-to-day administrative tasks efficiently to maximise time spent providing policing services to the public.	BaU	Low	Q1 2013/14	**12 months**
TE21	End User	Planned	**Customer, user and partner channel strategy**	Definition of the channel strategy for each of the following: - Customer channel strategy establishing the methods by which victims of crime and the general public can engage with ASC. This includes defining appropriate methods for different types of victims and vulnerable persons can interact with the Constabulary - User channel strategy to define how each of the user groups of police officers and staff will access core systems and information - Partner channel strategy to define how the Constabulary will interact with a variety of partners including other police forces, local authorities and health services	A well-defined channel strategy will reduce demand for police time for non-emergency interactions. The channel strategy will outline initiatives to establish alternative lower cost channels to interact with partners, users and customers (the public).	Low	Very low	Q4 2013/14	**2 - 3 months**
TE22	End User	In-flight	**Digital evidence office device deployment**	Deployment of technology required in locations for the capturing of digital evidence, including in-cell video conferencing equipment as required by the ADAPT project.	Enabler for new ways of working to replace hardcopy evidence and information where possible with more easily accessible, secure, digital content.	Low	High	Q2 2014/15	**TBC**
TE23	End User	Planned	**Vehicle tracking device deployment**	Deployment of black box tracking devices for vehicles to support more efficient use of Constabulary vehicle assets. This initiative includes implementation of additional tooling to support device rollout.	Reduce inefficient deployment of fleet vehicles with the aim of savings on fuel costs and increasing asset utilisation.	Low	Medium	Q1 2014/15	**6- 9 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
TE24	End User	Proposed	**Office device strategy**	Definition of an office device strategy that specifies for each function in the Constabulary what hardware will be required to support the vision. The role and departmental device strategies will be complementary with each other. The scope of this initiative will also consider the strategy for digital evidence capture equipment such as in-cell video equipment, electronic statements and digital interview recording.	Ensures that police officers and staff are enabled to carry out their day to day administrative tasks efficiently to maximise time spent providing policing services to the public. Pre-requisite for the efficient roll-out of digital evidence capture equipment to ensure that new equipment is effectively deployed to enable new ways of working for the relevant roles.	Low	Very low	Q1 2014/15	**2 - 3 months**
CS1	Transition State 1	In-flight	**Track my Crime For Other Forces deployment**	Phased rollout of the Track my Crime v2 solution to other constabularies with a view to deploying this nationally. This online portal is designed for the public to keep abreast of how the crimes they report are being progressed.	TrackMyCrime roll-out will deliver improved self-service functions to provide up-to-date information to victims and the public across the UK. This will improve the service offering to the public whilst driving demand from telephony enquiries to a more cost-efficient channel.	Low	High	Q4 2013/14	**3 months**
CS2	Transition State 1	In-flight	**Digital evidence content management system implementation**	Implementation of a content management system for the storage of digital evidence such as video interview records, digital images provided by the public and CCTV footage. This initiative will require conducting a holistic review of all digital storage requirements to ensure that the solution is adopted by all relevant functions to store digital content centrally.	There is a growing requirement for the effective storage and management of digital evidence in a single, searchable location given the increase in planned use of evidence from body cameras, CCTV and digital imagery provided by the public and captured by police officers and staff.	Medium	High	Q4 2013/14	**3 - 6 months**
CS3	Transition State 2	In-flight	**Call scripting solution implementation**	Replacement for the force services centre's call scripting solution (ProQA) with a STORM module providing integrated call scripting capabilities for call takers.	This will provide a more integrated and interoperable solution (with STORM) than the existing ProQA system. This will enable dispatch staff to receive higher quality, pertinent incident information in a reduced timeframe to effectively inform and deploy response units with minimal delay.	Low	Medium	Q3 2014/15	**3 - 6 months**
CS4	Transition State 1	In-flight	**Website refresh**	The new website aims to enable the public to access information in a format which meets their needs and enables the force to manage expectations. This solution will offer a high degree of self-service opportunities and content discovery. This includes implementation of a new e-commerce solution as well.	This will deliver improved self-service functions to provide up-to-date information to customers, improving public perceptions about the service provided. Clearly defined and automated online processes and provision of accurate information will reduce demand for non-emergency services.	Low	High	Q2 2013/14	**6 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
CS5	Transition State 2	In-flight	**Regional STORM upgrade**	Implementation of a Tri-Force Regional STORM solution which will operate on a thin client basis. This project aims to deliver a single command and control system for Avon and Somerset, Wiltshire and Gloucestershire constabularies. This solution will be inclusive of mapping functionality accessible on police end-user devices.	Establishment of a more efficient and collaborative regional platform will maximise economies of scale. Improved ability to respond to incidents by harnessing data available across other forces and co-ordinating response efforts across the south-west. Enabling more efficient resourcing for border incidents will enable better policing outcomes and reduced operating costs (for example, travel time and cost).	Medium	High	Q4 2013/14	**9 - 12 months**
CS6	Transition State 2	In-flight	**Integrated investigation, crime recording, intelligence, custody and case preparation system**	This project is procuring and implementing an integrated ICT system which manages business processes across the core areas of investigation (of all types), crime recording, intelligence, custody, case preparation and management of detained property to replace two of its core systems: Guardian (crime recording, investigations and property management) and (NSPIS) for Custody and Case Preparation.	Enables the fundamental change to significant parts of the Constabulary's operating model required to realise saving benefits and effectively deals with the business issue of NSPIS approaching its end of life. There is a desire to have greater integration between investigation crime recording, intelligence, custody, case preparation and management systems to reduce the current administrative burden of manually re-keying crime information in a number of core systems.	Very high	Very high	Q3 2013/14	**12 - 24 months**
CS7	Transition State 2	In-flight	**Upgraded rostering solution (Origin)**	Deployment of upgraded fit-for-purpose rostering solution that is capable of meeting the non-standard requirements of policing schedules. This initiative includes integration of this solution with SAP HR and should lay the foundation for predictive scheduling and planning of police officers shifts to match supply to demand.	This will meet the requirements of policing work schedules and will alleviate current pain points and the administrative burden surrounding software issues with entry of working time and double-keying.	Medium	High	Q4 2013/14	**6 - 9 months**
CS8	Transition State 2	Proposed	**Intranet refresh**	Refresh of the Constabulary intranet to improve content management, usability and improved search functionality.	This will make it easier for Constabulary personnel to access up-to-date internal information they require to carry out their day-to-day jobs effectively.	Low	Medium	Q1 2014/15	**3 - 9 months**
CS9	Transition State 2	Proposed	**PENTIP penalty system implementation**	Implement national fixed penalty solution (PENTIP) to replace the existing local VPFPO system. This solution will cover the management of penalty notices for driving offences, and those for disorder, which are issued for offences such as shoplifting and damage to property.	Mandated by the national agenda. This will eliminate the paper based system for ticketing and The system enables the Constabulary to access information on a single administration system, and allows the police to make cross boundary checks and share information. This will eliminate the paper based system for ticketing and speed up administration of notices.	Low	Low	Q3 2014/15	**3 - 6 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
CS10	Transition State 2	Proposed	**Mobile portal and application store development**	Build a mobile portal and mobile application store to enable officers and staff to access systems using mobile devices. This project scope includes: - building interfaces with the initial core systems that will be accessible through the mobile portal; - assessment and selection of the eco-system / operating system to be used by mobile devices; - development of the initial set of Constabulary mobile apps with common user interfaces. This initiative does not include device procurement and deployment; covered by TE18 and TE19.	Provision of officers and staff with mobile devices to enable flexible access to pertinent data will enable the Constabulary to make better-informed decisions when working on the frontline. This will minimise the reasons for those working in a mobile environment to return to a station or other fixed 'touch down' point during their shifts to complete administrative tasks and will assist the Constabulary in reducing its estate and increase the time officers and staff are operational and visible.	High	Very high	Q1 2014/15	**9 - 12 months**
CS11	Transition State 2	Proposed	**Arc map integration**	Integrate Arc map with additional data sources to make better use of the intelligence capabilities that the mapping solution provides. This initiative involves automating data loading where possible to minimise manual input by intelligence staff. This is a tactical initiative to better make use of existing tools prior to a longer term assessment of mapping solutions as part of CS20.	Automating data integration with the mapping tool will reduce the amount of manual processing currently undertaken by intelligence staff and enable them to better use their time deriving valuable insight for the Constabulary.	Low	Medium	Q2 2014/15	**3 - 6 months**
CS12	Transition State 3	Proposed	**Data warehouse implementation**	Implement data warehouse solution to extend and / or replace ASSIST, leveraging standard data mart schema to improve data integrity across the Constabulary. This involves the following: - Systems architecture design and technology product selection - Development of schematic and physical data models and subsequent development of the ETL schema for data - Design of end user application	Optimise information flows and reporting to aid decision making and improve service delivery. Reduction in the requirement for manual data extracts to support use of existing systems. This is a key enabler for the Constabulary to achieve its aims of using predictive analytics to enhance policing service delivery where appropriate.	Medium	Low	Q4 2014/15	**9 - 12 months**
CS13	Transition State 3	Proposed	**Data analytics extension**	Deploy additional analytics capabilities to leverage insights from the information stored within the data warehouse. This may include the implementation of new technology tools for data analysis and visualisation or upgrades to existing tools such as Business Objects and I2.	Increasing the quality of information provided to officers will enable them to better protect vulnerable people and assist both the prevention and reduction of crime, as well as the fear of crime.	Medium	High	Q4 2015/16	**2 - 3 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
CS14	Transition State 3	Proposed	**Additional Digital content management system integration**	Creation of additional interfaces between the Digital CMS with additional systems and data analytics tools to enable better insights. For instance, unstructured data analysis and building interfaces with mobile portals to enable this information to be better utilised by the Constabulary.	Currently, digital content is stored in multiple places, is difficult to search and is rarely exploited. In order to improve the ability to catalogue and search this content, a CMS solution will need to integrate with a number of sections. For example, the ability to carry out searches for individuals on CCTV footage using facial recognition technologies.	Medium	Medium	Q3 2015/16	**3 - 6 months**
CS15	Transition State 3	Proposed	**Regional collaboration hub**	Build a regional extranet hub for automating data integration with other constabularies and partner agencies. The hub provides a standard method / protocol for partner agencies to share data and collaborate.	Further the regional collaboration agenda through automating the flow of information between partners where possible will reduce the amount of manual transfers of data and searches required.	Medium	Medium	Q4 2014/15	**6 - 9 months**
CS16	Target State	Proposed	**Emergency Services Network rollout**	Deploy the Emergency Services Network (ESN) to replace the Airwave communications system. This new network will be determined nationally that aims to provide increased functionality. This initiative also includes completing the upgrade to the DOPRA system.	The Emergency Services Mobile Communications Project (ESMCP) is a project driven nationally by the Home Office to deliver the ESN solution. The existing DOPRA interface provides an intuitive, accessible interface for command and control staff. The upgrade to DOPRA is required to support the implementation of the ESN by maintaining inter-operability during migration from the Airwave system to the ESN. It is important to note that the current DOPRA system is not compatible with a VoIP Telephony system or the new ESN system. If VoIP is being introduced at HQ then the DOPRA system will need to be upgraded to satisfy VoIP requirements and be ready for the ESN implementation. This dependency needs to be considered during the next stage of project prioritisation and detailed planning.	Medium	High	H1 2017/18	**6 - 9 months**
CS17	Target State	Proposed	**Socrates integration**	Integration of the existing forensic investigation system with the integrated investigations, crime recording and case preparation and management system delivered by ATLAS if this is feasible. The feasibility of a full consolidation of the two systems including de-commissioning of Socrates should be assessed.	Greater integration of forensic investigation to crime management, making this evidence more accessible to police officers and staff who require it during the course of investigations.	Medium	Medium	Q4 2015/16	**9 - 12 months**

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
CS18	Target State	Proposed	Customer relationship management implementation	Development of a CRM type solution to manage and track customer contact and ensure a victim-centric approach to interactions with the Constabulary. This solution will need to provide police officers and staff with all the information from interactions with the individual including, where possible, integration of information from partner agencies. This initiative also includes the implementation of service driven automated text messaging for past victims and public.	The Constabulary lose a wealth of information by not recording customer interactions or additional data which could be used to enhance customer/victim engagement, intelligence gathering, internal and external collaboration by having a single view of the customer across the Constabulary, local and regional partners and potentially nationally.	High	High	H1 2016/17	12 - 18 months
CS19	Target State	Planned	Additional TrackMy products rollout	Development of additional TrackMy products for national roll-out. (Web or mobile based) Additional opportunities to improve engagement with the public through additional 'Track My' products will be explored through analysis of public demand patterns for non-emergency services that could be enabled through self-service e.g. the Facewatch mobile application for the reporting of personal theft implemented in London.	Track My Crime has provided a simple tool for the public to access information on crimes related to them and is expected to redirect non-emergency interactions to un-manned, low cost channels. There are additional opportunities to improve engagement with the public through self-service channels e.g. potential for certain non-emergency interactions provided by 101 also available via the web.	Medium	Medium	H2 2016/17	3 - 12 months
CS20	Target State	Proposed	New intelligence mapping tool implementation	Deploy a new mapping tool to provide additional insight through the use of additional insights and overlays as the Constabulary's access to additional data sources from partners increases.	As the local, regional and national agenda progresses and automated information sharing is implemented it will be necessary to implement the next generation of mapping tool to best enable intelligence services..	Medium	Medium	H1 2017/18	6 - 12 months
CS21	Target State	Proposed	Enhanced data analytics capability implementation	Enhancing the intelligence capability through implementation of enhanced predictive analytics solutions to make better use of new data sources.	The use of predictive methods will improve the efficiency and effectiveness of deployment of police officers and staff. This will be complementary and additional to the current capabilities. This may include sentiment analysis on social media for anticipating crime or geo-spatial mobile phone data to identify crowd build-ups for public order policing.	Medium	Medium	H2 2017/18	3 - 6 months
CS22	Target State	Proposed	Extranet mobile portal implementation	Deployment of mobile portal onto the extranet hub delivered by initiative CS15 to deliver mobile apps for partner use. These applications will provide partners such as charities and health services with self-service access to information required to provide better services to the public.	Enabling local and regional agencies to complete specific enquiries for Constabulary information will better enable all services to provide a more victim-centric, holistic service to the public.	Medium	Medium	H2 2016/17	9 - 12 months

Ref	Category	Status	Name	Description	Rationale	Cost Magnitude	Expected benefits	Potential Start Date	Likely duration
CS23	Target State	Proposed	**PNC and PND upgrade**	Deployment of updates to national PNC / PND solution. The precise scope of this initiative will be defined by the national policing agenda but may include consolidation of PNC and PND and / or mobile access to these tools.	This is a national initiative driven by the Home Office. Upgrades to the police national crime databases will need to be implemented to better provide the Constabulary with the information necessary to identify and detain offenders	Medium	Low	H2 2016/17	**3 - 6 months**
CS24	Target State	Proposed	**HOLMES upgrade**	Upgrade to the national major crime investigation system. The precise scope of this upgrade will be determined at a national level.	This is a national initiative driven by the Home Office and will need to be implemented to better provide the Constabulary with the information necessary to identify and detain offenders.	Low	Low	H1 2017/18	**3 - 6 months**
CS25	Target State	In-flight	**Chronicle**	This is an ASC system currently that is being adapted to work for Tri Force (Firearms/Dogs/Ops) by April. The system is used to book out weapons, record them as assets, and maintenance for them. It also links to the training systems/records for each of these team areas, which is reviewed by the College of Policing.	Establishment of a more efficient and collaborative platform will maximise economies of scale. Requirement from National College of Policing to allow tri-force firearms training to take place. Enabling more efficient resourcing for border incidents and incidents across tri-force and will enable better policing outcomes and reduced operating costs (for example, travel time and cost).	BaU	High	Q2 2012/13	**12-18 months**
CS26	Target State	Proposed	**Regional Socrates**	Socrates solution for Forensics hosted on ASC servers	Shared hosting of solution, making it more accessible to police officers and forensics staff who require it during the course of investigations.	Low	Medium	Q2 2014/15	**9 - 12 months**
CS27	Target State	Proposed	**IDENT 1**	IDENT 1 solution for Forensics hosted on ASC and Devon and Cornwall servers	Shared hosting of solution, making it more accessible to police officers and forensics staff who require it during the course of investigations.	Low	Medium	Q2 2014/15	**9 - 12 months**

B. Initiative mapping to ICT vision

Proposed Initiatives	Servicing the public and victims	Role based mobility and data accessibility	Predictive and real-time insight driven policing	National, regional and local collabortion	Secure, integrated, performing, intuitive solutions	Efficient & professional ICT delivery
Primary data centre migration					✓	✓
Accommodation Programme					✓	
Partner sharing platform	✓		✓	✓		
PSN-compliant WAN network		✓		✓	✓	
LAN switch upgrades					✓	
VOIP rollout					✓	✓
Build network capacity model						✓
Disaster recovery migration					✓	
Establish business continuity testing plans	✓				✓	
Server refresh					✓	
Server virtualisation					✓	✓
Server operating system upgrade					✓	
Core system performance enhancement					✓	✓
Build storage capacity model						✓
SAN refresh					✓	
Establish ICT support model for mobile apps		✓	✓			✓
Virtualisation of desktops		✓			✓	
Rollout end user e-mail client services		✓	✓			

	ICT Principles					
	Servicing the public and victims	Role based mobility and data accessibility	Predictive and real-time insight driven policing	National, regional and local collabortion	Secure, integrated, performing, intuitive solutions	Efficient & professional ICT delivery
Mobile device deployment	✓	✓				
Refresh printer and photocopier infrastructure					✓	
Customer, user and partner channel strategy	✓	✓		✓		
Digital evidence capture devices	✓	✓	✓		✓	
Vehicle tracking device rollout			✓			
Track my Crime For Other Forces deployment	✓			✓		
Digital evidence content management system implementation					✓	
PROQA replacement	✓				✓	
Website refresh	✓					
Regional STORM upgrade		✓		✓	✓	
Integrated Crime Management System			✓		✓	
Aurora rostering system upgrade					✓	
Intranet refresh					✓	
PENTIP penalty system implementation				✓	✓	
Mobile portal & application store rollout		✓	✓		✓	
Arc map integration			✓		✓	
Data warehouse implementation					✓	
Data analytics extension			✓			
Additional Digital CMS integration					✓	

	ICT Principles					
	Servicing the public and victims	Role based mobility and data accessibility	Predictive and real-time insight driven policing	National, regional and local collabortion	Secure, integrated, performing, intuitive solutions	Efficient & professional ICT delivery
Regional collaboration hub				✓		
National emergency response system rollout				✓		
Socrates integration			✓		✓	
Customer relationship management for victims implementation	✓		✓		✓	
Additional TrackMy products rollout	✓			✓		
New intelligence mapping tool implementation			✓			
Enhanced data analytics capability implementation			✓			
Extranet mobile portal implementation	✓	✓		✓		
PNC and PND upgrade			✓	✓		
HOLMES upgrade				✓		
Establish an enterprise architecture function					✓	✓
Deepen ICT relationship management capability					✓	✓
Develop transparency in the resource management capability						✓
Make capacity management proactive						✓
Provision of Chronicle solution to tri-force	✓			✓	✓	
Hosting of Socrates on a regional basis			✓	✓	✓	
Hosting of IDENT-1 solution on a regional basis			✓	✓	✓	

C. Information management vision

The ICT vision places a heavy emphasis on data exploitation and collaboration. Most organisations have a centralised or distributed information management capability. Various distributed teams exist within the Constabulary with different responsibilities, including the performance information team, the corporate information management department and database administrators within the Southwest One organisation.

The ICT strategy is clear that data, and the exploitation of data, is a key part of the future vision and includes a number of initiatives to provide the investment required. A vision for information management still needs to be articulated, but could include three central pillars:

- The ability to generate future insights based on analytical assessments of all past and present digital data within the Constabulary's boundaries and beyond;
- The maintenance of data as a strategic asset, ensuring accuracy, completeness, currency and relevancy of information and its maintenance;
- A well understood and strategically designed metadata model, enabling an intuitive and simplistic input of data and integration of new capabilities; and
- A fit-for-purpose and performing technical architecture enabling the above.

The information management operating model presented below outlines three components that should be considered when defining the analytics roadmap and plan to achieve it.
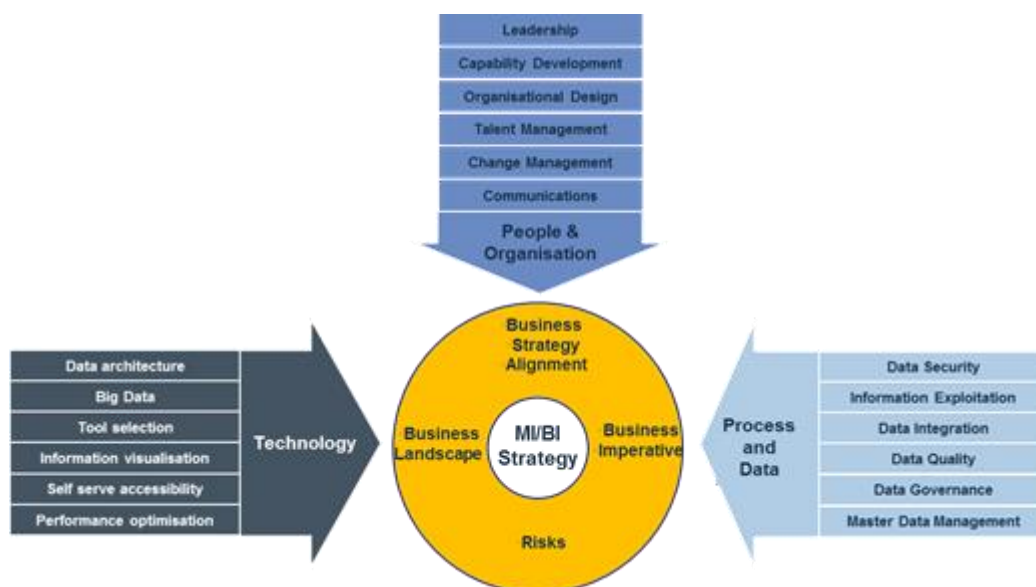
Figure 13 - Information management operating model dimensions

From an ICT perspective Figure 14 outlines a typical architecture for a data warehouse, though there are others.
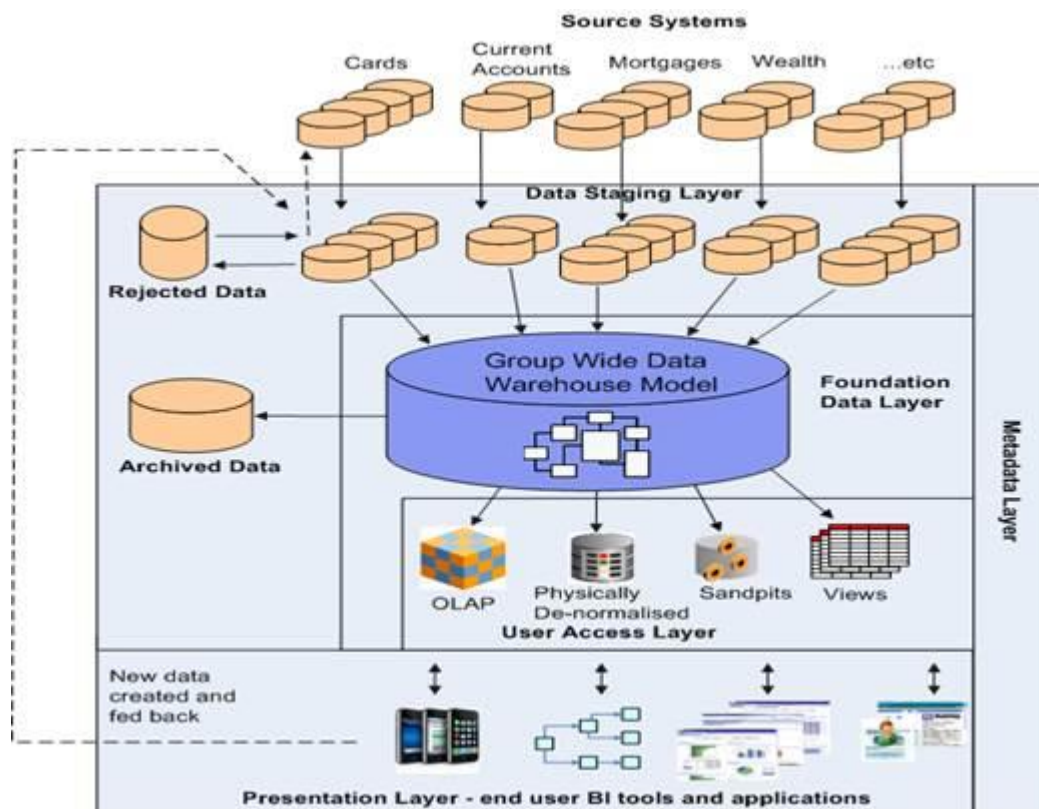
Figure 14 - Typical data warehouse architecture pattern

Today there are significant gaps between the required maturity of the holistic information management operating model and that needed to enable the ICT vision to be met. CS12, the data centre implementation project, has been positioned on the roadmap to help deliver some of the key enablers. However more investment is required, especially to develop the capability and ensure a joined end-to-end approach. Similarly DS1, establish a strategy and architecture function, will also be of benefit

D. Initiative to current project traceability matrix

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
TE1	Proposed	**Primary data centre migration**	TE2	AIIP13: SAP Refresh (including relocation to Express Park), ASC0335b: PFI design sign-off, CPP10: Accommodation Programme: Migration to PFI Buildings	✓
TE2	In-flight	**Accommodation Programme**		ASC0587: Accommodation Block Refurb, ASC0589: Equestrian Facility at HQ ASC0585: Hinkley Point New Nuclear Build Police Post ASC0586: Regional confidential unit ASC0559: Technical Ops move from Newfoundland to KSH CPP10: Accommodation Programme: Migration to PFI Buildings	✓✓✓
TE3	In-flight	**PSN-compliant WAN network**		INT0199: ASC WAN Refresh, AIIP7: WAN Refresh and IL3 overlay development	✓✓✓
TE4	In-flight	**LAN switch upgrades**		AIIP10: LAN Refresh	✓✓✓
TE5	In-flight	**VOIP rollout**	TE3, TE4	AIIP2: VOIP deployment (non-PFI),	✓✓✓
TE6	Proposed	**Build network capacity model**			None

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
TE7	Proposed	**Disaster recovery migration**	TE1		None
TE8	Proposed	**Establish business continuity testing plans**			None
TE9	Proposed	**Server refresh**		AIIP8: Oracle Server Refresh, AIIP9: SQL Server Refresh	✓✓
TE10	Proposed	**Server virtualisation implementation**		AIIP8: Oracle Server Refresh	✓
TE11	Planned	**Server operating system upgrade**		AIIP8: Oracle Server Refresh, AIIP9: SQL Server Refresh	✓
TE12	Proposed	**Core system performance enhancement**			None

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
TE13	Proposed	**Build storage capacity model**			None
TE14	Planned	**SAN refresh**		AIIP6: SAN Performance Upgrade (additional IOPS for MS Exchange)	✓✓✓
TE15	Proposed	**Establish ICT support model for mobile apps**	CS10	CPP6: Maximising Collaboration (B and I): Mobile Technology Infrastructure Project, AIIP4: Mobile Device / BYOD, AIIP11: Upgrade to BES10 (Blackberry)	✓
TE16	Proposed	**Desktop virtualisation implementation**			None
TE17	Proposed	**End user email client services deployment**	TE19		None
TE18	Planned	**End user device strategy**		CPP6: Maximising Collaboration (B and I): Mobile Technology Infrastructure Project	Low

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
TE19	Planned	**End user device rollout**	TE18, TE15, CS10	AIIP4: Mobile Device / BYOD, CPP6: Maximising Collaboration (B&I): Mobile Technology Infrastructure Project	✓✓✓
TE20	In-flight	**Refresh printer and photocopier infrastructure**	TE24	ASC0394: MFD Replacement Project (Printers)	✓✓✓
TE21	Planned	**Customer, user and partner channel strategy**		CPP14: Improving Public Accessibility and Self Service: Channel Strategy	✓✓
TE22	In-flight	**Digital evidence office device deployment**	TE24	ASC0209: Digital Interview Recording Project (ADAPT), ASC0519: In Cell Video Conferencing (ADAPT)	✓✓✓
TE23	Planned	**Vehicle tracking device deployment**		ASC0345: Vehicle Black Boxes, CPP3: Maximising Collaboration (B and I): Vehicle Tracking Black Box	✓✓✓
TE24	Proposed	**Office device strategy**		ASC0209: Digital Interview Recording Project (ADAPT), ASC0519: In Cell Video Conferencing (ADAPT)	✓

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
CS1	In-flight	**Track my Crime For Other Forces deployment**		ASC0553: TrackmyCrime FOF, CPP12: Improving Public Accessibility and Self Service: TrackMyCrime FoF	✓✓✓
CS2	In-flight	**Digital evidence content management system implementation**		ASC0209: Digital Interview Recording Project (ADAPT), ASC0519: In Cell Video Conferencing (ADAPT) CPP15: Reshaping the Operating Model: ADAPT CCTV streaming, viewing & processing, Video Conferencing	✓✓✓
CS3	In-flight	**Call scripting solution implementation**		CPP5: Maximising Collaboration (B and I): STORM	None
CS4	In-flight	**Website refresh**		CPP13: Improving Public Accessibility and Self Service: New Website	✓✓✓
CS5	In-flight	**Regional STORM upgrade**		ASC0423: Tri-Force, CPP5: Maximising Collaboration (B and I): STORM	✓✓
CS6	In-flight	**Integrated crime management system implementation (ATLAS)**		CPP4: Maximising Collaboration (B and I): ATLAS	✓✓

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
CS7	In-flight	**Upgraded rostering solution (Origin)**		CPP1: Maximising Collaboration (B and I): Aurora	✓✓✓
CS8	Proposed	**Intranet refresh**			None
CS9	Proposed	**PENTIP penalty system implementation**			None
CS10	Proposed	**Mobile portal and application store development**			None
CS11	Proposed	**Arc map integration**			None
CS12	Proposed	**Data warehouse implementation**		ASC0369: Jboss (Data Warehouse upgrade to ASSIST), ASC0538: Development of a file quality data-base with accreditation scheme, CPP11: Accommodation Programme: Central Store - Open HQ Archive facility	✓

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
CS13	Proposed	**Data analytics extension**	CS12		None
CS14	Proposed	**Additional Digital content management system integration**	CS2		None
CS15	Proposed	**Regional collaboration hub**	TE3		None
CS16	Proposed	**National emergency response system rollout**			None
CS17	Proposed	**Socrates integration**	CS6		None
CS18	Proposed	**Customer relationship management implementation**		CPP16: Reshaping the Operating Model: First Point of Contact, CPP17: Integrated Victim and Offender Management: IOM, CPP18: Integrated Victim and Offender Management: IVM	✓

Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
CS19	Planned	**Additional TrackMy products rollout**	CS1	CPP12: Improving Public Accessibility and Self Service: TrackMyCrime FoF	✓
CS20	Proposed	**New intelligence mapping tool implementation**	CS12		None
CS21	Proposed	**Enhanced data analytics capability implementation**	CS13		None
CS22	Proposed	**Extranet mobile portal implementation**	CS15		None
CS23	Proposed	**PNC and PND upgrade**			None
CS24	Proposed	**HOLMES upgrade**			None

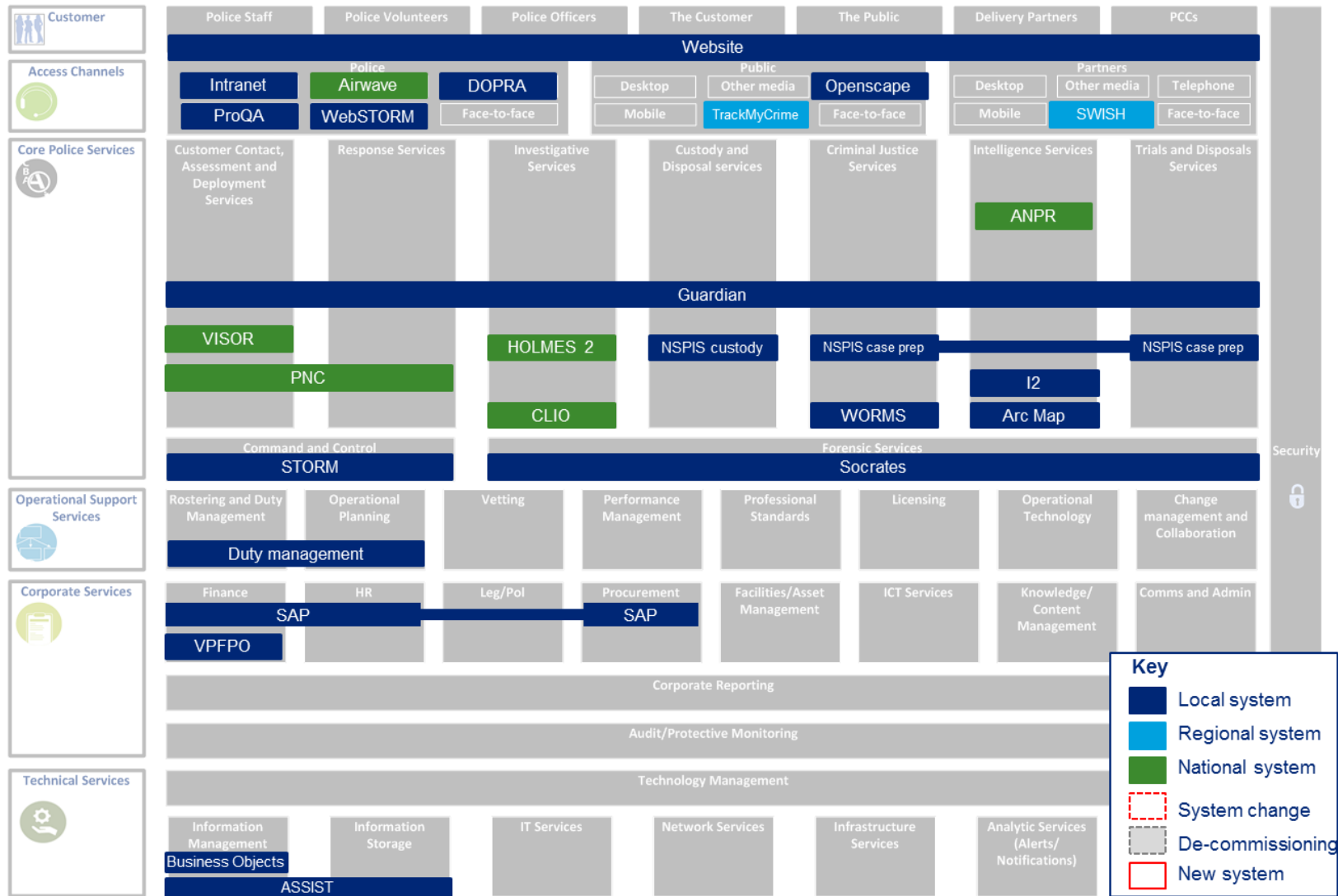| Ref	Status	Name	Dependencies	Name of existing initiatives	Level delivered by existing projects
CS25	In-flight	**Chronicle**		ASC0423: Tri-Force, CPP5: Maximising Collaboration (B&I): Chronicle	✓✓✓
CS26	Proposed	**Regional Socrates**			None
CS27	Proposed	**IDENT 1**			None

E. Full transition states
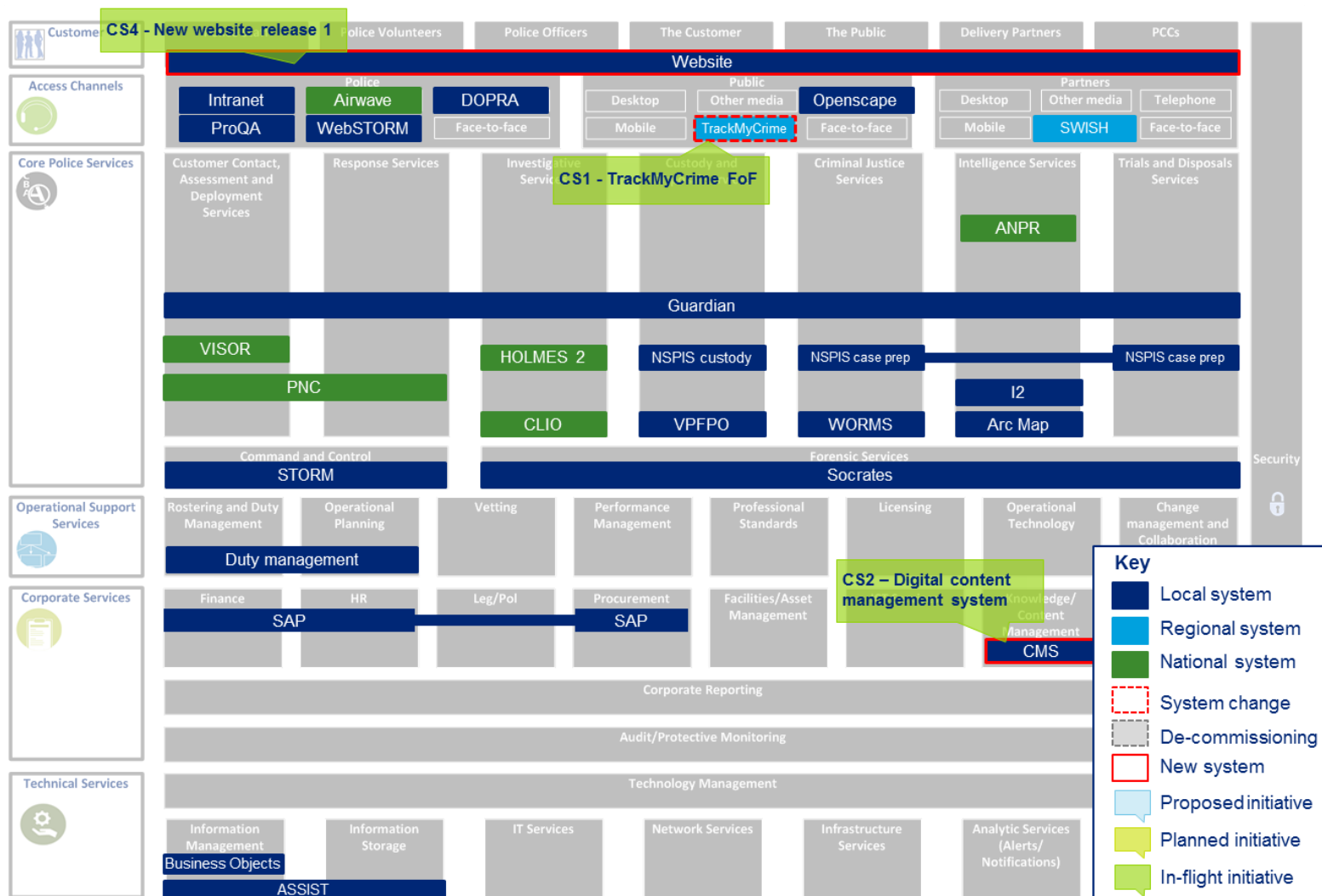

Figure 15 - Current state architecture
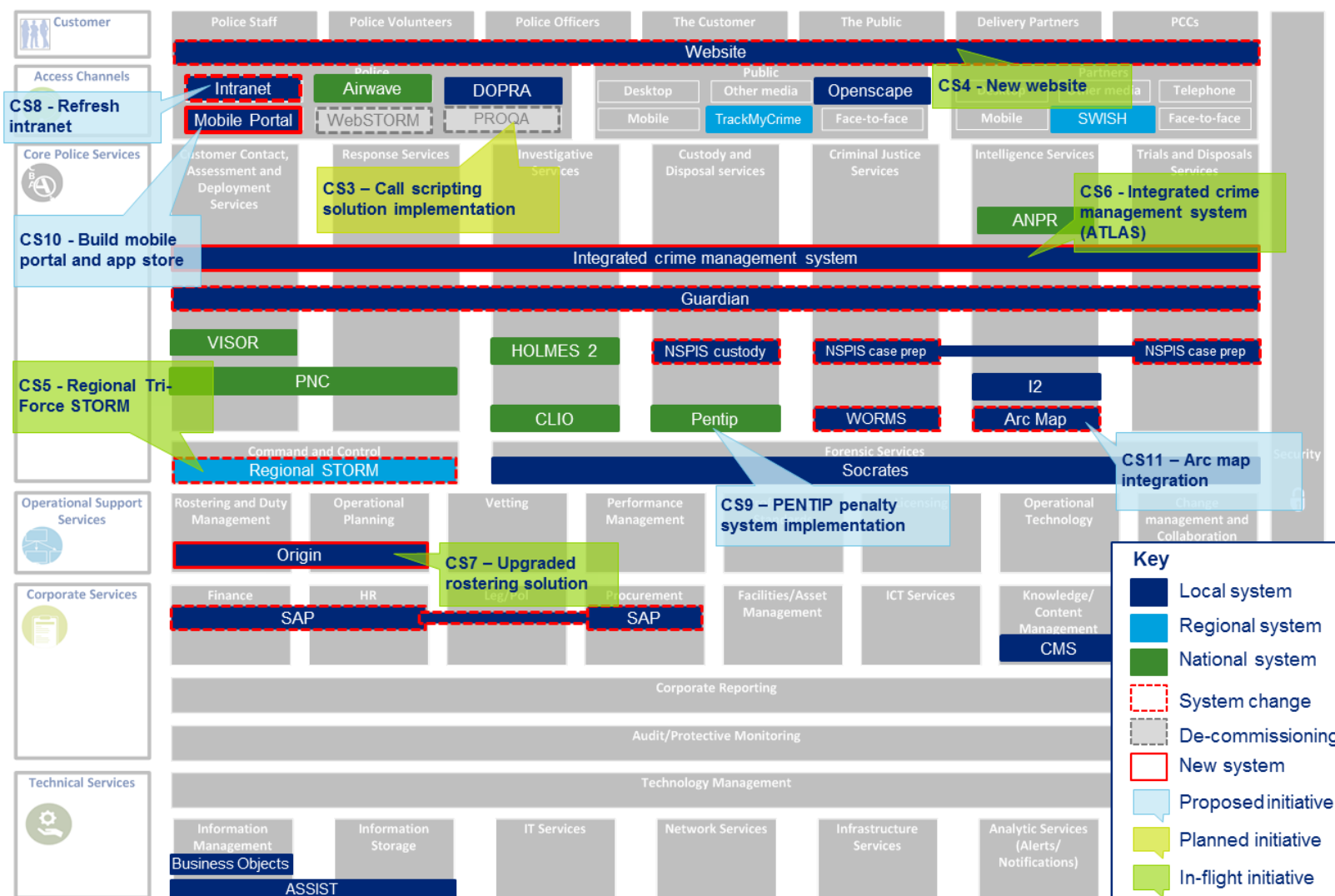
Figure 16 - Transition state one (end March 2014)

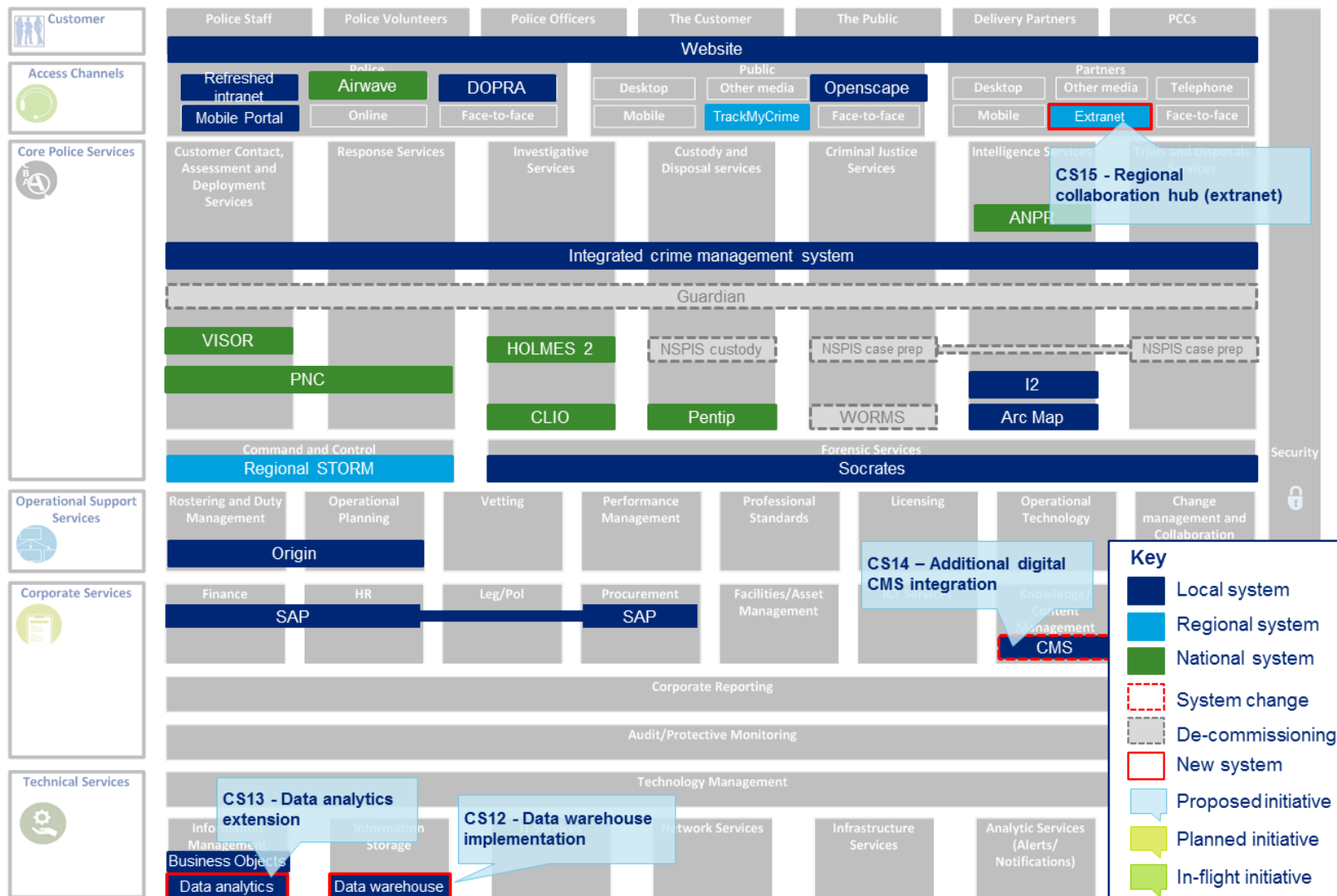Figure 17 - Transition state two (end March 2015)

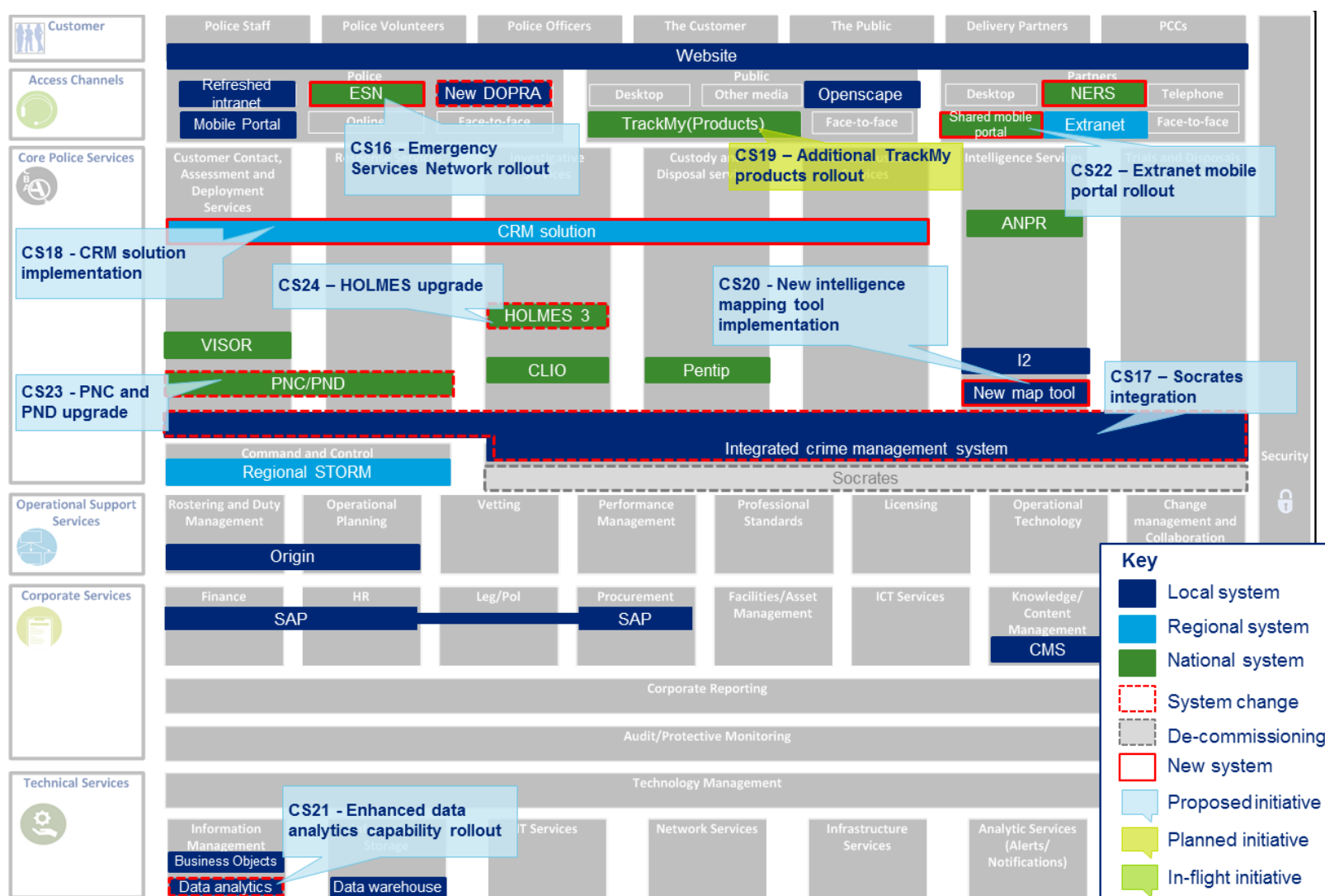**Figure 18 - Transition state three (end March 2016)**

Figure 19 - Target state (end March 2018)

F. Operational impact of the ICT vision

In order to test the operational reality of the ICT principles, police officers and staff across CID, neighbourhood policing, patrol, despatch, force service centre and intelligence services were consulted in order to ensure that the ICT principles would benefit them in their roles.

The table below maps key the points of feedback on operational policing that were received to the ICT principles that would deal with the current identified issues and drive improvements to their services. All four of the key messages can be mapped to one or more of the key principles.

Experiences from the Group	Implication on ICT Principles					
	1	2	3	4	5	6
System reliability of the STORM, GUARDIAN and ProQA core systems was specifically mentioned most frequently. The reliability of software, particularly software that is used in a public-facing process, must be a priority for the ICT Strategy in order to deliver the public satisfaction priorities			✓			✓
The quality and availability of data was mentioned multiple time, specific examples included: ▪ The fact that data can be accessed which may not be the highest quality, for example the way that some data is displayed in WebSTORM is not easy to understand ▪ There is a delay between data input and data availability, for example there is a time delay from intelligence being input to it being made available when searching ▪ Data appears on different systems and is not automatically linked (e.g. intelligence in GUARDIAN and in specialist investigation systems such as HOLMES)		✓	✓			✓
Single search and data entry across systems – the need to search, and cross-refer, between STORM, GUARDIAN and NSPIS was referred to (particularly to check if a person recorded on GUARDIAN is currently in Custody recorded on NSPIS).			✓		✓	
Training and awareness of systems – there were differing experiences of Constabulary ICT training, particularly in terms of the quality, timeliness and completeness of training. Several examples were given of individual roles changing and training not 'following them' into their new role.						✓

The table below shows the key daily activities which would be influenced by adopting the ICT principles:

Example business activity	Which systems are used?	Current issues / problems?	How the ICT principles apply?
Logging on	Webstorm; Guardian OpenScape STORM; PNC; DMS	Multiple systems all require individual log-in before the shift starts so you are ready at the moment the shift starts	Single sign-on Login takes less than a minute Telephone technology 'follows-you' to your new desk
Receive briefing	STORM; PNC; Mapping Resource List; DMS DOPR	Having the read through STORM logs handed over, PNC offenders where named, Use mapping and resource list to plan current availability Identify if officers are on duty using DMS	Integrated view of open incidents, officers available and current location Integration between STORM, Guardian and PNC to automatically lookup named offenders etc.
Handling calls from the public	STORM GUARDIAN	STORM can crash STORM data not always up-to-date (e.g. contact telephone numbers for other agencies) Guardian is slow to respond when people are on the telephone	STORM is more reliable Guardian responds more quickly
Produce Daily Briefing Sheet	Business Objects STORM; Guardian; Assist; Arc Map; SOCRATES Word; Excel	Interfaces between systems are generally manual Must check several systems to get the full picture Manual processes in place to ensure you get the full picture (e.g. overnights) Lack of availability of key systems	Overnight data runs an extract and automatically populates maps, lists etc. for use in briefings
Manage current crime investigations	Depending on nature of the crime: Guardian / HOLMES / Emails / hardcopy reports	Crime files are located across multiple systems, including paper files Rekeying data between Police, CPS, Court, Probation Communication mostly by email	Systems automatically sharing data Email not used so much

Example business activity	Which systems are used?	Current issues / problems?	How the ICT principles apply?
Updating duties, timesheets, overtime etc.	SAP	Duties information is rekeyed between SAP and local systems Data may not be up-to-date compared to other systems	A single source of planned duties, time spent at work and finances

G. Deloitte ICT capability model

The Deloitte ICT capability model is commonly used to assess the maturity of the 47 process capabilities found within ICT organisations.

H. The Avon and Somerset Constabulary ICT vision

- Police officers and staff will have role-based access to information to ensure they can operate in an effective and efficient manner
- Information will be easily captured, read and updated using mobile devices when operating remotely from built up and rural locations across ASC, including digital evidence

- ASC will use the knowledge it has to understand and predict people and location risks and possible events
- Information will be available to everyone that needs and has authorisation to access it in real-time to enable effective and efficient delivery of policing services
- Data will be treated as an asset, captured once, reused, maintained and electronically stored wherever possible
- Data quality will be embedded in system design, automated validation and cross referencing

- ASC will manage contact with the public in a unified manner across online, mobile, voice and face to face channels, tailoring the service dependant on individual's contact history and status
- There will be a focus on victims and vulnerable persons, who will be supported through whichever contact method is most appropriate for that individual at that time
- ASC will maintain a presence on social media channels, using them as sources of feedback such as trending and sentiment analysis, to issue public communications when appropriate and to increase engagement with the public and increase confidence

- ICT will enable seamless policing operations of specialist, regional and multi-force operations
- There will be automated, efficient digital collaboration with criminal justice, regional specialists, local authorities and commissioned pathways
- ASC will proactively support local, regional and national ICT initiatives and seek to collaborate wherever there may be potential benefits to be realised

- ICT investment will focus on areas of biggest policing benefit, balancing the need to realise cost efficiencies and cost synergies within a limited budget
- New ICT systems and upgrades will be accompanied by training and other appropriate business change activities to ensure successful adoption of technology
- ICT and ICT providers will deliver major change using a collaborative and responsive approach

- Core systems will be secure and robust, operating in a fast and reliable enough manner to not negatively impact officers and staff
- Systems will be fully integrated, sustainable solutions, allowing for direct and automated inputs and outputs
- ICT will be interoperable outside of ASC by adopting relevant standards and encouraging collaboration
- ICT systems and infrastructure will be sustainable, delivering a cost effective and energy efficient ICT estate

Disclaimer

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