NAO

National Audit Office

Cross-government

Information and Communications Technology in government

Landscape Review

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Cross-government

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Developments in technology have created opportunities for government to deliver greater efficiency, while keeping pace with citizens' rising expectations about how they want to engage with government and access public services and information online.

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Introduction

1   Government's dependence on Information and Communications Technology (ICT) has accelerated during the last two decades. Developments in technology have created opportunities for government to deliver greater efficiency, while keeping pace with citizens' rising expectations about how they want to engage with government and access public services and information online. ICT is an important contributor to social mobility and economic growth. It is a significant area of government spending – an estimated £16 billion per annum across government in 2009.[1]

2   In the past, commentators have focused on government's failure to deliver ICT projects to time, budget and specification as well as the systemic reasons for these failures. Government is not alone in experiencing problems with ICT; the private sector also finds it hard to keep pace with the new skills, new technologies and new ways of working that make companies competitive.

3   The past year has seen radical and rapid changes in the government's approach to ICT. This is due in part to constrained finances but it is also being driven by the important role that information and technology has in opening up the delivery of more public services to new providers. There have been new spending controls on ICT introduced at the centre of government and rapid developments in some policy areas. Government is considering new ways of working that could potentially introduce ICT that is more adaptive, can keep pace with changing business requirements and enable new systems to be brought into operation more quickly than historically has been the case.

4   Government is a knowledge-intensive business. Effective information and technology are essential assets of government which all front line workers and civil servants rely on. Information and technology go hand in hand and are crucial to government's ability to be **better informed** in its decision-making, build stronger **financial management** and drive more **cost effective delivery**. These are the National Audit Office's three strategic themes, and our future work will take a close interest in how government is making the most of ICT to secure efficiencies and enable new ways of delivering public services at the same time as seeking to rationalise ICT to deliver short-term cost savings.

The purpose of this report

5   This report has been prepared to inform the debate about government's new approach to ICT and describes the changes that are underway. It does not draw a conclusion about the value for money of these initiatives as these are at an early stage. This report will:

-    establish a framework that the National Audit Office will use to guide future value for money evaluations on government ICT so that we deliver a more systematic perspective on progress (Part One);

-    set out what has been achieved in government ICT during the last decade along with those issues that remain to be tackled (Part Two);

-    highlight current Cabinet Office initiatives that have begun to target some of these issues (Part Three); and

-    summarise the biggest challenges we consider government faces in protecting and improving value for money from ICT and ensuring ICT is deployed fully in sustainable cost reduction (Part Four).

6   The framework for examining ICT that is set out in Figure 1 (page 7) marks a departure from our earlier work. By establishing a more structured picture of the systemic issues that have affected the value for money of government ICT investment, and the direction that government is taking, we are better able to identify key priorities for future value for money studies. This will ensure that in addition to holding government to account for past performance, we are able to highlight the most critical challenges for the future.

7   The National Audit Office plans to undertake three cross-government investigations in 2011-12. These will assess the value for money of government's overall strategy for ICT, online services and its shared services. This current Report establishes some of the priorities for these three studies (Part Four).

8   This Report draws on our experience as auditors of central government, past government publications, research from think tanks, data supplied by the Cabinet Office, and interviews with lead officials, chief information officers and the supply industry.

Part One

ICT in government

1.1   This Part introduces the key components of government ICT with definitions and explanatory examples of each.

ICT

1.2   ICT is the tools and techniques used to capture, store, manipulate, communicate and use information.[2] Fully exploiting the capability of ICT is of critical importance to the delivery of modern government and businesses in a knowledge-driven economy.

1.3   The dependence of all organisations on ICT has accelerated especially since the turn of the 21st Century. Citizens' and businesses' experiences of Internet services and mobile applications are in fast moving retail, leisure and social networking sectors that are heavily influenced by high levels of investment. Civil servants themselves can compare ICT in their work environment with what is available to them outside the office. The next decade will see both customers and users of government ICT systems demanding ever greater functionality and availability.

The key components of government ICT

1.4   **Figure 1** opposite shows a simple representation of the four key components of government ICT: policies and strategies, its operational uses, people and governance. It is the interaction of all of these that influences value for money. They are explained in more detail in the following paragraphs.

Policies and strategies

1.5   Across government there is a broad range of policies that underpin how ICT is used in public services, how it is developed and ultimately brought into operation. This includes business policies on transparency of information and how it is managed and secured, commercial policies on strategic supplier relationships and more technical policies relating to common standards for ICT.

Figure 1

The key components of government ICT

Policies and strategies	Citizen	Business	Civil Society	International	People	Civil service
	Online services					
	Business intelligence systems					Private sector
	Business systems					
	Back office systems					
	Infrastructure					
	Operational uses					
Governance						
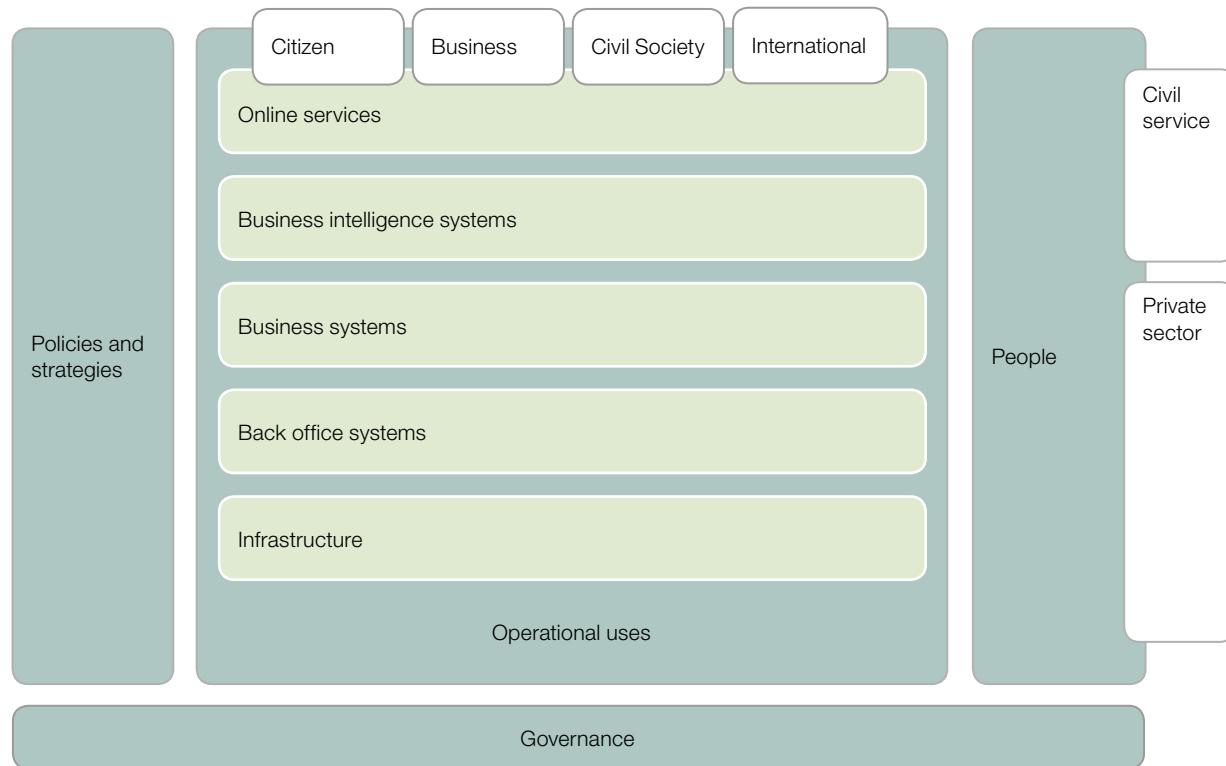
Source: National Audit Office

1.6   Primary ownership of government ICT policy and strategy rests with the Cabinet Office; specifically the Government Chief Information Officer and, since May 2010, the Efficiency and Reform Group. The Cabinet Office works to implement ICT policies and strategies through the chief information officers of government bodies. The role and responsibilities of chief information officers include owning the organisation's ICT strategy, ensuring it is enabling the delivery of business objectives and championing ICT-enabled programmes and projects.

1.7   Outside the Cabinet Office, a range of government bodies also own government ICT policies. For example, a mapping exercise in 2007 identified nine government departments with a role in getting more people online (digital inclusion).[3] Similarly, in 2010, we found that policies to make people safer online, while being led by the Cabinet Office, came from a further seven government bodies.[4] As well as fragmented ownership of policies, specialist areas of ICT – security, freedom of information and intellectual property rights – are the responsibility of those departments with specific expertise. Accordingly, coherence across this complex policy landscape demands close working at senior civil service and ministerial levels.

Operational uses

1.8 ICT is used in many ways across government but five broad applications are generally recognised. These are:

- **Online services.** A growing number of public services are now available online, reflecting trends in the private sector and the need to reduce the costs of delivering services. Citizens and businesses are able to use the Internet to file tax returns, make benefit claims, apply for immigration visas, renew vehicle road tax, apply for passports or book medical appointments. Websites such as Directgov and Businesslink guide citizens and businesses to the information they need and the Foreign Office uses the Internet to disseminate overseas travel advice.

- **Business intelligence systems.** These systems typically automate the collation, analysis and presentation of financial information, management information and metrics about business performance and relevant progress indicators across an organisation. When combined with effective systems for budgeting, planning, forecasting and optimisation, business intelligence systems provide the means to navigate through and share management information across an organisation and are key to informed decision-making in knowledge-intensive organisations.

- **Business systems.** These systems sit at the heart of public service delivery. They can range from simple database applications through to large transactional systems supporting the operation of tax collection and benefits payments. Many areas of government have been made more efficient through the deployment of business systems, but these have also presented the biggest challenges to value for money. Commonly business systems are developed from scratch by large IT suppliers to deliver very specific and customised solutions for government.

- **Back office systems.** Every public sector body relies on a range of finance, human resources, procurement and facilities management systems to manage its operations effectively. These systems deliver core functions that all organisations need for strong financial control.

- **Infrastructure.** ICT provides all of the basic tools for the modern working environment. Desktops, printers, laptops, telephones, servers, software applications and email are all necessary for efficient government operations. They are ICT commodities that are available from the market. Infrastructure can directly affect other costs such as office accommodation. It influences how productive and mobile the front line and civil service workforce is, and the extent to which flexible and collaborative working is possible.

People

1.9   The people involved in government ICT include change specialists, business strategists and analysts, as well as the more traditional systems architects, software engineers, service managers and database administrators. ICT professionals are responsible for the continuous design of operating models and business processes to take advantage of rapidly evolving technology. Successful organisations will typically rely on them as a central part of strategic decision-making and design of new services, not just for applications development and the running of operating systems.

1.10 There has been an important trend towards outsourcing the development and operation of government ICT systems. Approximately 65 per cent of government ICT is outsourced to the private sector.[5]

Governance

1.11 ICT governance is the people, systems and processes that direct, approve, control and assure an organisation's ICT. It operates both across government and within government bodies.

Part Two

Government ICT in the past decade

2.1 Part One introduced the four elements that need to work together to contribute to the effective use of ICT in government (Figure 1, page 7). In this section, we chart government's progress over the past ten years, highlighting the specific challenges it continues to face, in each of the following areas:

- Policies and strategies (page 11)

- Operational uses (page 12-16)

- People (page 17-18)

- Governance (page 19)
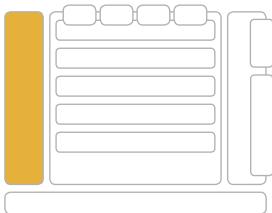
Policies and strategies

2.2 We have identified 30 major cross-government ICT initiatives (policies, reviews, strategies and new positions or organisational changes) launched between 2000 and 2010. Appendix One summarises these initiatives in a timeline, highlighting their key objectives. Initiatives since May 2010 are discussed in Part Three. Our analysis reveals three broad phases:

- **2000 to 2004:** Improving procurement and the functioning of the supply chain – down in part to the establishment of the Office of Government Commerce in 2000.

- **2004 to 2008:** A shift towards more citizen-focused initiatives, for example, the design of services around users, and encouraging more citizens and businesses to use services online.

- **2008 to 2010:** An increase in the number and breadth of initiatives including a greater emphasis on the delivery of services online and cost reductions through consolidation, sharing and reuse of ICT infrastructure, back office systems and business systems.

2.3 Government bodies have had to keep track of this complex and fast changing landscape of initiatives and reflect it in delivery plans for their own information and technology. Their responses to initiatives have not always been designed with cost-effective delivery as the primary objective and consequently this has led to multiple, bespoke systems that cannot easily interact.

Challenges

- The Cabinet Office has had difficulties with implementation of its cross-government initiatives. Adoption largely relied on persuasion and personal networks across the ICT community, and progress in delivery against this raft of initiatives has been slow. Financial accountability in government bodies has tended to work against participation in pan-governmental initiatives. Under existing accountability arrangements government bodies favoured their own ICT agendas and individual priorities, rather than aligning with central policy.

- Establishing robust management information about ICT across government – such as total spending on ICT or overall business performance – has proved difficult. This has limited the Cabinet Office's ability to develop convincing cases for complying with cross-government initiatives and has undermined its ability to effect change.

Operational uses
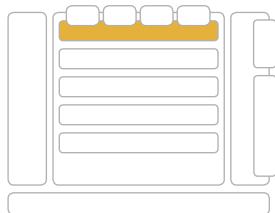
Online services

2.4 Progress has been made in making government services available online, although government's own research has found that some of these services generate poor levels of customer satisfaction. Government websites have not scored well on ease of use, design and accuracy.[6]

2.5 In the late 1990s, the Government saw online channels as an opportunity for fragmented services spread across different departments to be presented as a single integrated service for the citizen or business. Few public services so far have been transformed to this extent. Under the *Tell Us Once* programme (launched in 2007), single notification of births and deaths has only reached pilot stage, and work on government's long held ambition for single notification of a change of address started only within the last 12 months.[7]

2.6 Government has reduced the number of its websites by over 1,000 since 2008, and has linked various departmental services and information together through three key access pages on the Internet:

- Directgov is the primary resource for citizen services;

- Businesslink supports business services and applications; and

- NHS Choices disseminates information about conditions, treatments, local services and healthy living.

Challenges

- Government websites have not offered a customer experience on a par with the private sector. The expectation gap has become wider as government has not been able to keep pace with the opportunities that new technology offers.

- Government has not taken a strategic approach in the way it has designed and integrated its online services around the user's need. There are few examples of government bodies working together to deliver a service. Government bodies have placed different priorities on moving their services online and investment has not always been focused on the most popular services.

- To secure the full benefits of cost reductions by switching to online services, government needs to increase the number of adults using the Internet. Access to the Internet in the United Kingdom over the last decade has become widespread – over 30 million adults go online every day. However, nine million, referred to as the digitally excluded, have never used the Internet.[8]
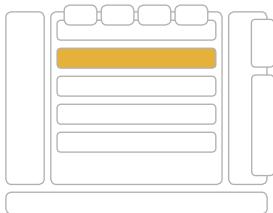
Business intelligence systems

2.7 The quality of government's management and performance data and has been a recurrent theme in our reports. In 2009, the Operational Efficiency Programme report noted "the management information relating to operational efficiency needs to be improved[9]". In his 2010 Efficiency Review, Sir Philip Green highlighted that poor and inaccurate data contributes towards the persistent inefficiency with which government conducts its business.[10] The Operational Efficiency Programme Benchmarking Report found that there were significant problems associated with developing an aggregate picture of performance across government, partly because the process of data collection was largely a manual exercise.[11]

2.8 Successful organisations exploit business intelligence systems to improve their businesses. A recent Gartner review, reported that the "market for BI platforms will remain one of the fastest growing software markets despite the economic downturn. In tough economic times, when competitiveness depends on the optimization of strategy and execution, organizations continue to turn to BI as a vital tool for smarter, more agile and efficient business[12]."

2.9 It is surprising that there has not been greater emphasis across government on the application of these systems and the business analysis skills needed to apply them. Business intelligence capabilities are often built into government's business or back office systems where they are used for measuring performance of particular services by specialist business analysts. However, it is extremely rare to find these types of systems meaningfully applied at the top level of government bodies where their potential to assist with strengthening financial management and making informed decisions about the future is greatest. This is especially the case in departments that have complex delivery mechanisms and accountability structures across many executive and arm's length bodies, and where large quantities of information need to be assimilated accurately and often in real time.

Challenges

- There is no widespread understanding by senior government officials of the value and application of business intelligence in reporting on and forecasting against departmental performance objectives. There is not sufficient awareness of how this technology might be used, even within current restricted budgets.

- There is not a sufficiently broad consensus around the accepted norms for business intelligence in the public sector. Establishing what constitutes value is inevitably more complex than in the private sector.
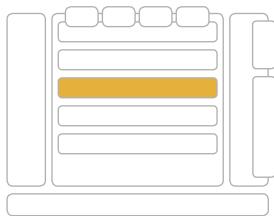
Business systems

2.10 Over the last decade, considerable investment has been directed at developing systems that deliver public services; and how these systems perform has affected value for money. There have been high profile failures, delays and cost over-runs in systems crucial to the delivery of public services, which have attracted considerable criticism. These systems were not developed in-house; rather their development and operation have been outsourced. Traditional commercial models, lengthy procurement cycles and rigidly defined development methods combined with a lack of strategic supplier management have been cited as some of the causes of failure. Criticisms have largely overshadowed those systems that have been brought into service successfully.

2.11 Between 2000 and 2010, a number of initiatives to improve performance were launched, starting with the creation in 2000 of the Office of Government Commerce. The initiatives that followed were designed to spread best practice in project management, project assurance and practices to make procurement processes more efficient and effective.

Challenges

- The large estate of long established systems has become a constraint upon evolving services and it is costly to maintain. Integrating older systems with newer ones has proved challenging and replacing them has been prohibitively expensive.

- Lengthy procurement cycles have increased the risk that systems do not deliver what the business needs when they are brought into operation.

- Even with heavily customised systems, there have been many common applications which government bodies have procured that could be re-used. Government has not actively sought opportunities for rationalisation of business applications across its ICT estate.
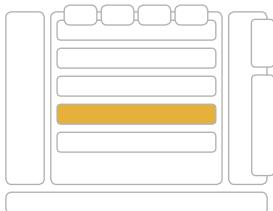
Back office systems

2.12 At the start of the decade, government bodies operated their own corporate functions. In 2003, the NHS identified that savings could be made if NHS Trusts were offered a finance service that would be delivered by a joint venture company – government's first attempt at shared back office systems. In his efficiency review the following year, Sir Peter Gershon recommended greater use of shared services like this across government as a cost-saving measure.[13]

2.13 To date, progress delivering shared services by consolidating back office systems has been patchy and expected benefits have not been realised.[14] The Cabinet Office has had overall responsibility for more widespread use of shared services. However, different approaches have been taken within departmental families and not all corporate functions have been shared. Early back office system consolidations within government bodies were not originally designed as shared services, but have come to be considered as such. Only the Department for Work and Pensions provides a complete range of shared services for government bodies outside its own departmental family. The Government's ICT strategy in January 2010 reaffirmed the Cabinet Office's commitment to greater use of shared services.[5]

Challenges

- There have been limited incentives for government bodies to share back office services. Those supplying the service have needed to finance the upfront investment, while the customers have perceived a loss of flexibility and control of the cost and delivery of their core business functions.

- The shared services landscape has developed with insufficient strategic direction. The ideal configuration for shared back office systems to achieve economies of scale has not been sufficiently explored.
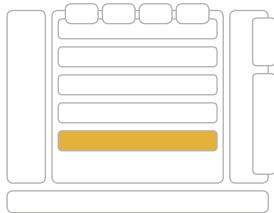
Infrastructure

2.14 Whilst every government body spends a significant percentage of its budget on basic ICT infrastructure, each has largely entered into procurements without taking account of what government already owned. This has led to an accumulation of duplicated assets. For example, the Cabinet Office reported government had 220 data centres available, but on average only 7 per cent of this capacity was used.[15]

2.15 Networks have also proliferated. Among the many used by the public sector were the Government Secure Intranet, the Criminal Justice Service Exchange, the Police National Network and the Joint Academic Network. The Cabinet Office led the planning for a cross-government Public Sector Network, designed to create a single telecommunications infrastructure that will deliver efficiency savings. Government bodies, both locally and nationally, would be able to connect and share data.[5]

2.16 In its 2010 ICT Strategy, the government announced the development of the G-Cloud.[5] Cloud computing offers a different way for organisations to buy IT services. Rather than buying its own servers and software licences and managing these, an organisation buys storage capacity and software-as-a-service over the Internet. Not only does this remove the management overhead of technology infrastructure, it helps organisations react more flexibly as it is possible to vary the number of applications or volume of data storage on demand.

Challenges

- The full buying power of government has not been exploited yet. Although Cabinet Office policies recognised the potential for cost reduction, the Cabinet Office has not influenced sufficient government bodies to collaborate, or made this mandatory. Many have continued to enter into separate agreements with the same ICT suppliers and as a result they have paid different prices.

- The government has not taken advantage of cloud computing. The 2010 ICT Strategy did recognise this as an opportunity for government to reduce basic ICT costs but progress has been slow.
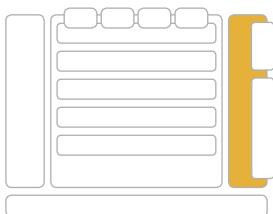
People

2.17 Government is one of the most significant employers of ICT professionals in the United Kingdom. Estimates of the number employed range from 35,000 to, if staff contracted to the public sector are included, well over 135,000.[5] ICT professionals are vital to set the right information strategies, design organisational change and new public services, not just to deliver new technology or rationalise the ICT estate. The private sector has been quicker than government in understanding the full value of ICT skills in exploiting information and technology in its services and in leading associated business change.

> "All of today's public services are underpinned by technology… which is really why the skills, capabilities, and value of the public sector IT professionals delivering to the public are of huge strategic importance."
>
> *Lesley Hume, Director, Office of the Government Chief Information Officer, December 2009*

2.18 While outsourcing to the private sector should have brought greater technical capability and led to efficiencies, government has not managed its relationships with large suppliers effectively, to harness their skills and experience. At present 80 per cent of central government ICT work is undertaken by 18 suppliers. Many of these contracts are for a government body's whole ICT service, meaning that civil service staff, knowledge, skills, networks and infrastructure have been transferred to a supplier. This has effectively locked government into specific contracts for the long-term. Dependence on a small number of suppliers for ICT services has been compounded by consolidation in the sector as a result of mergers and takeovers.

2.19 Small- and medium-sized enterprises (SMEs) have brought a complementary set of innovative skills into government. They respond quickly to changing requirements and provide solutions at lower cost in less time. However, SMEs have struggled to access government contracts despite a number of initiatives to address this over the decade.[16]

2.20 The Government Chief Information Officer is responsible for the professionalisation of the government ICT workforce, and a clear strategy for this was first set out in 2005.[17] Initially, the approach concentrated on the *Skills Framework for the Information Age* which it developed with the ICT industry (Appendix Two). The framework was designed to assist government bodies in the definition of ICT roles and recruitment requirements, as well as identifying skills gaps. It includes a broad spectrum of longer lasting skills in areas such as business strategy and business and operational analysis. It does not focus purely on technological knowledge, which has a more rapid turnover.

2.21 In 2007-08, the Cabinet Office began using the Civil Service Fast Stream Programme to develop high calibre government IT employees. To date it has placed 47 staff in 10 departments. The Technology in Business Fast Stream has been the most successful of all the Civil Service Programmes, with more applications per place, the highest growth in the number of applications and also a zero attrition rate.[18] From 2009, the Cabinet Office widened its focus. A dedicated website was set up to facilitate the building of communities of common interest and the sharing of best practice and, through e-skills UK,[19] all government ICT staff could gain access to learning needs assessments to support their career progression.

Challenges

- The ICT profession across both private and public sectors is immature in comparison to traditional professions such as medicine, law or accountancy. There is no core set of recognised qualifications and a very wide variety of entry points into the profession. This has made it harder for those in the senior civil service without ICT experience to understand the full value that the profession can deliver.

- The Cabinet Office has faced difficulties in professionalising ICT. The introduction of the *Skills Framework for the Information Age* has been a helpful step forward, but there has been no clear mandate to implement it. Progress has therefore been slow. The lack of management information on the real status, capability and capacity of the government ICT workforce has not helped to develop the case for change.

- It is not clear whether sufficient strategic workforce planning for the ICT profession has been undertaken across government. The right balance between wider strategic and business skills, and specialist commercial skills or purely technological knowledge, may not have been achieved. This has affected government's performance as an intelligent customer of complex ICT systems.
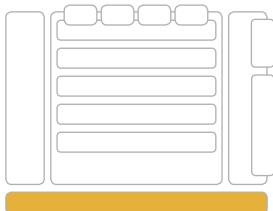
Governance

2.22 Effective ICT governance across government and within government bodies has not always been in place, evidenced by the high numbers of ICT projects failing to deliver business benefits in the past decade. Governance has been fragmented, and project assurance has not consistently provided the critical challenge that would directly improve quality.

2.23 A number of organisations at the centre of government have had a role in governance of ICT – either through assurance of individual projects or providing guidance or strategic advice on commercial, procurement or technical matters. Systems of control included mechanisms to review and control spending and manage the risks in the government's programmes and projects, such as the Office of Government Commerce's Gateway™ reviews.

2.24 Recognising that a lack of ownership for the delivery of business benefits at the government body level was a factor in project failure, the centre of government created a role where an individual would be made accountable (known as a senior responsible owner). However, long-standing issues with this role have been identified: lack of operational delivery, project management and technical skills, and high turnover.[20] The internal IT audit function has developed since 2000, but has focused mostly on the effectiveness of controls rather than the business value being derived from systems.

Challenges

- The governance regime in organisations has focused unduly on providing assurance and not on control of quality. There have been many examples of where government has assessed the effectiveness of controls rather than the risk to business value being delivered from systems.

- There is a broad spread of budget responsibility and experience across the departmental chief information officer community, but critically, only four sat on their department's board (in 2010). Many have struggled for influence in their organisations and are not routinely involved in investment approvals even when ICT forms a key part of an investment case.

Part Three

New initiatives

3.1 This Part explains the main changes made at the centre of government to address the continued challenges to the effective use of ICT across government – principally by the newly formed Efficiency and Reform Group within the Cabinet Office (paragraphs 3.5 to 3.6).

3.2 Speaking in 2009, Francis Maude MP, now Minister for the Cabinet Office with responsibility for public sector efficiency and reform, drew attention to the challenges in the government ICT landscape. He singled out spending on ICT as an area of particularly poor performance where government would need a significantly different approach in future:

> "The UK Government spends more on ICT [per capita] than any other government. And yet the history of UK government ICT projects is littered with budget overruns, delays and functional failures.

> "We need fewer huge mega-projects; systems that can talk to each other; a level playing field for open source software and smaller suppliers; to buy off the shelf rather than always seeking bespoke perfection; to open up access to government data; and far more effective procurement and management of projects. We also need a new vision for how government can engage with citizens[21]."

3.3 Faced with these long-standing challenges and a worsening financial position, a number of changes have been made since May 2010, and more are planned for 2011. The most significant change so far is greater central control over ICT spending in government bodies. Many of the new initiatives continue or accelerate activities to implement policies and strategies that began many years ago. The wider policy environment has also shifted. For example, implementing Big Society initiatives will create new challenges for government ICT to open up access to information and enable central and local government systems to talk to each other and civil society. **Figure 2** maps the new government ICT initiatives on to our framework.

Figure 2
Targets for new initiatives

Tighter control of ICT spend:
- Moratorium
- Project review
- ICT hardware collaborative procurement

Skunkworks

Greater use of Open Source

Strengthening the role of Directgov

Redeployment services

Citizen Business Civil Society International

Online services

Business intelligence systems

Business systems

Back office systems

Infrastructure

Operational uses

Policies and strategies

People

Civil service

Private sector

Governance

Efficiency and Reform Group formed in the Cabinet Office

Reducing costs

Transparency of government data

Big Society

Digital by default

New ICT strategy

New Major Projects Authority formed

Evolution of role of the Chief Information Officer's Council

New approach to Supplier Relationship Management:
- Contract renegotiations with biggest suppliers
- Appointment of six Crown Commercial Representatives

Source: National Audit Office

3.4 In headline terms the changes made by the centre of government include:

Policies and strategies

- Rapid developments in some key areas of policy, with an acceleration of the work to make government more transparent and even stronger emphasis on the need for government to move its services online.

- A new Government ICT strategy planned for release in Spring 2011.

Operational uses

- A greater focus on cost reduction in ICT spending, and a marked strengthening of the role for the centre in reviewing and approving new and existing spending commitments for ICT infrastructure, back office systems and more complex business systems.

- Strengthening the role of Directgov – to enable more services to be provided via digital channels.

People

- Major interventions in commercial relationships with the largest government ICT suppliers, with Memoranda of Understanding being agreed by negotiation teams from the Cabinet Office.

Governance

- Strengthening governance of ICT at the centre of government with new arrangements for Major Projects (over £50 million), and an evolution of the role of the Chief Information Officer's Council.

Policies and strategies

The Efficiency and Reform Group

3.5 The Efficiency and Reform Group was formed in June 2010. It integrates ICT, as an enabler of efficient delivery, with commercial skills in procurement and project management from across government in the Cabinet Office. The Group reports to a Board chaired jointly by the Chief Secretary to the Treasury and the Paymaster General. The Group's objective is to ensure departments work together to tackle waste quickly and improve accountability. It has increased powers to mandate policy decisions, and aims to bring consistency and integration to related areas of cross-government policy.[22]

3.6 The Group's first objective was to help government bodies live within budgets that were reduced by £6.2 billion in 2010-11, by identifying savings from applying efficiency and reform measures to government spending, including on ICT.[23] The Group is also responsible for longer-term objectives for government ICT including the new ICT strategy, digital shift, how government buys ICT and the governance of major ICT projects.

Digital shift

3.7 The Government has continued to emphasise the importance of getting more people, businesses and government services online and improving user experiences, and appointed a UK Digital Champion in June 2010.[24] Her first report to government in October 2010 made far-reaching recommendations for:

- Government services to be 'digital by default' – that is, shifted to digital-only channels. Government services, including to businesses, would in future be delivered under the Directgov brand. Cost savings are expected as a result.

- Government websites to be opened up to enable the data within them to be used by other websites. This would be achieved by the creation of mandatory interface tools known as Application Programming Interfaces.[25]

3.8 The Government largely accepted the Digital Champion's recommendations, and made a commitment to ensure Directgov has sufficient authority to improve the user experience of digital services and agree a timeline to migrate all government transactional services there. Directgov had already moved to the Efficiency and Reform Group from the Department for Work and Pensions in July 2010 to strengthen its role and position of influence.[26]

ICT's role delivering the Big Society

3.9   Stronger information strategies and more transparent government information and data will be factors enabling the delivery of public services by charities, voluntary groups and social enterprises. This requires a step change from earlier attempts to open up government (for example, the Freedom of Information Act) as the duty to publish data would be placed on government at all levels, rather than citizens having to ask for it. This means that new demands will be placed on existing ICT systems across the whole of government: access to data at low cost using common data standards, a system of identity assurance that can be used by government's partners, sufficient information security where necessary, assurance about the quality of data and the timely release of data.

> "Setting government data free will bring significant economic benefits by enabling businesses and non-profit organisations to build innovative applications and websites".
>
> *The Coalition: our programme for government,* May 2010

3.10 The Cabinet Office created the Public Sector Transparency Board, chaired by the Minister for the Cabinet Office, in June 2010 to:

● support and challenge departments and non-departmental public bodies in their implementation of the transparency agenda;

● extend transparency to local government, including local transport;

● establish clear principles and setting open standards, policies and licences;

● develop the legal 'right to data';

● promote the release of public data sets on the basis of public demand;

● define 'public task' for trading funds;

● promote the development of open linked data standards for public data; and

● establish clear principles for transparency and setting of open standards, policies and licences for data release across public services.[27]

3.11 Government bodies have been publishing data sets on data.gov.uk since its launch in January 2010. There are now 5,600 available.[28] The creation of a new body, the Public Data Corporation, to bring together government data in one organisation was announced in January 2011.

ICT Strategy

3.12 The new ICT Strategy, about the Government's longer term approach to ICT, is out for consultation and due for publication in Spring 2011. Work-streams that were set up to deliver key commitments in the last government ICT strategy, published in January 2010, have continued in the absence of a current strategy. For example, a procurement framework agreement for the creation of the Public Service Network is due to be awarded in early 2011, and consolidating the number of Data Centres (paragraphs 2.14 and 2.15). However, other elements will begin to progress more swiftly when the new strategy is released – for example, work on professional skills in government and making ICT greener.

Cost reduction targeted at operational uses

3.13 The Efficiency and Reform Group has introduced three tactical initiatives to make immediate reductions to ICT costs in 2010-11. A stronger role for the centre is evident in all three of the new measures for controlling spending on ICT announced in May 2010:

a   **ICT Moratorium.** Central government departments, agencies and non-departmental public bodies were told not to sign any new ICT contracts, contract extensions or modifications above a value of £1 million, without specific agreement by the Minister for the Cabinet Office. The ICT Moratorium will be replaced by new spending control mechanisms in 2011-12, which may include a moratorium on ICT projects with a higher limit of £5 million proposed.

b   **ICT Project Review.** A mandatory review of all central government's ongoing ICT projects to identify wasteful projects which could be stopped or changed. All projects over £1 million in value were reviewed between July and October 2010.

c   **Renegotiation of contracts with suppliers.** The Efficiency and Reform Group and the Minister for the Cabinet Office led discussions with key government ICT suppliers to agree Memoranda of Understanding to reduce contract costs. Departments will use the Memoranda to renegotiate contracts with these suppliers.[29]

3.14 The primary aim of these measures is to reduce wasteful spending on operational uses of ICT. Further centralisation of spending controls was announced in February 2011 when the Treasury wrote to all departments requesting no new purchases of ICT infrastructure should take place, effectively centralising its specification and purchase across government. This further centralises government purchasing, adding to existing collaborative procurement policy relating to purchases of ICT hardware (such as laptop and desktop computers).

3.15 In December 2010, the Government announced "the days of the mega IT contracts were over"[30] and a limit of £100 million on contract sizes for ICT projects would be enforced. At a summit attended by representatives from the major suppliers, the Government explained the rationale for smaller projects implemented, where possible, using off-the-shelf solutions and agile[31] methodologies. The Efficiency and Reform Group has not yet published guidelines on this commitment and the £100 million limit may not be implemented.

3.16 Some policy initiatives to improve how government software is developed have been announced. The Government reaffirmed its commitment to open source software[32] and has created a 'skunkworks' team within the Cabinet Office.[33] The 'skunkworks' team will test proposals to ensure they are the most optimal in terms of feasibility and likely success, encourage responses to government procurements from a wider group of suppliers and keep government up to date with innovations in the private sector. It will be important to integrate this team's role with the Efficiency and Reform Group's other spending controls as they develop.

People

3.17 The Cabinet Office has adopted two initiatives to advance its agenda to professionalise the ICT workforce and deploy it to support government bodies better within the new financially constrained environment:

- **Redeployment Service.** Since August 2010 departments have been able to submit job descriptions for ICT positions. The Cabinet Office then matches supply and demand, forwarding a list of candidates to the department in question.

- **Role profiles.** Twenty two of the most common job descriptions have been identified and mapped onto the Government ICT Skills Framework.

3.18 Most suppliers of government ICT now have a Memorandum of Understanding with government, following the contract renegotiations in 2010-11, that makes a commitment to reduced contract costs in the short-term. A new approach to managing supplier relationships in the longer-term is planned, with continued emphasis on government as an intelligent and 'single' customer. A number of Crown Commercial Representatives will be appointed as the central point of contact for a group of 20 to 25 suppliers. They will take a strategic, cross-government approach to their suppliers and will have the power to agree or prevent a contract extension. One will have particular responsibilities for small- and medium-sized enterprises (SMEs).

3.19 Progress on improving SME's access to government contracts will be reported on annually from December 2011. Early developments in this area have been to encourage existing large suppliers to expand partnership working with SMEs, rather than government contracting with SMEs directly. It remains to be seen whether this approach will deliver the expected benefits of reduced costs and greater diversity and innovation in the supply chain.

Governance

3.20 A new Major Projects Authority will take responsibility for the governance and management of government's Major Projects Portfolio from April 2011 including ICT projects costing £50 million or more. The Authority will be part of the Cabinet Office and will implement a new mandated integrated assurance and reporting regime for all major projects. It will be responsible for any decisions taken during the Major Projects Review in autumn 2010.

3.21 A new role is planned for the Government Chief Information Officer and the Chief Information Officer Council. In the past, the Government Chief Information Officer post had been filled by a full-time Cabinet Office civil servant. The newly appointed Government Chief Information Officer[34] also holds that post for the Department for Work and Pensions, one of the most heavily ICT-dependent government departments. The role of the Council is also evolving to meet the new demands of the fiscal environment.

Early evidence of impact

3.22 Most of the Efficiency and Reform Group's initiatives are very recent, and it is too early to evaluate their effect. We will continue to monitor developments as they emerge. Some immediate financial impacts of the Group's new controls have been reported by the Cabinet Office: the Government expects to save £3 billion in 2010-11 as a direct result of the Group's actions, and that savings totalling £1 billion had already been achieved.[35] Included in these figures are indicative savings from the initiatives controlling spending on ICT, which are presented in **Figure 3**. Potential savings are as reported to the Cabinet Office by departments and have not been audited by the National Audit Office.

Figure 3
Indicative financial savings from the Efficiency and Reform Group's new financial controls

The ICT Moratorium on new projects

To date 76 ICT projects totalling at least £1.7 billion have been submitted by departments for review. Only six were not approved (£36 million). The Cabinet Office estimates potential savings of around £200 million from rescoping of projects that were approved. This is likely to underestimate the spending avoided in 2010-11 as a result of the moratorium, as departments, agencies and non-departmental public bodies decided to cancel many projects rather than submitting them.

Review of ongoing ICT Projects under £50 million

Departments' own review of ongoing ICT projects identified 229 that should not continue. Cancelling these projects could realise budget reductions of up to £1 billion over the next five years. A further 193 ongoing ICT projects were submitted for review, and further potential budget reductions of up to £240 million were identified.

Review of ongoing ICT projects over £50 million

Over 80 Major ICT Projects were identified across government for review, with a total budget in excess of £28 billion. These reviews recommended that two ICT projects budgeted to cost nearly £2 billion be stopped, and that a further 26 with a total budget of over £4 billion allowed to proceed unchanged. The remaining projects have been rescoped or are still the subject of ongoing reviews to determine the actions or recommendations necessary on assurance and approval activities. This rescoping exercise has so far identified potential spend reduction of at least £1.7 billion, the majority of which has been used to inform the Spending Review in autumn 2010. Maximising the potential savings will be contingent on a number of factors such as managing the exit costs for terminated projects, shifts in government policy or renegotiations with major suppliers.

Contract renegotiation

The first phase of contract renegotiations in July 2010 focused on 19 suppliers, primarily of ICT services. Potential savings of up to £800 million could be made if departments and suppliers fully implement their Memoranda of Understanding. Further negotiations with 34 more suppliers are ongoing.

NOTE

1   There is some duplication between savings reported from the three initiatives, for example, potential savings from contract renegotiations would be counted again when the rescoped project is submitted for review by the Moratorium. These cost savings programmes are at an early stage. Many of the cost savings have yet to be realised and neither the National Audit Office nor the Cabinet Office have audited the level of savings actually achieved by departments. Savings will be spread over a number of years.

Source: Cabinet Office data

3.23 The new initiatives mean that spending on ICT will almost certainly be lower in 2010-11 than earlier years. Accurate figures of government spending on ICT will be available later in 2011. Many of the projects that were cancelled had limited business value or were found to be likely to fail. However, it is also difficult to evaluate the long-term and wider impact on government operations of the cost reductions made by restricting spending on ICT in 2010-11, for example, where projects delivering business transformation have been delayed or cancelled.

3.24 We do not yet know the effect on the supplier community of the shrinkage of the government ICT market. Some estimates suggest it contracted by up to £1 billion in 2010-11.

3.25 The centre of government now has a more complete picture of the whole portfolio of government ICT projects as a result of the new processes. This information can be used to help reduce duplication and identify efficiencies where a number of government organisations have purchased similar ICT functionality. The new processes have focused government bodies on ICT spending – raising awareness at a senior level in departments beyond those who specialise in ICT.

Part Four

## Better value for money from information and technology

4.1 This Report's earlier parts have highlighted the main, persistent challenges that government has faced in delivering better value for money from ICT and the steps the Efficiency and Reform Group has taken so far to tackle the priorities. Following this analysis, the National Audit Office is strengthening its own approach to future evaluations of ICT. This Part presents in outline terms, the key questions we will be exploring and the priorities for our future programme of value for money studies.

New approach and critical questions

4.2 When evaluating government's use of ICT, we will apply the five stage approach set out in **Figure 4**.

- Stage 1 establishes what an ICT saving or investment is intended to achieve.

- Stage 2 examines the influence that policies and strategies have had on cost-effective delivery.

- Stage 3 explores the coherence and practicalities of the technical solutions, paying close attention to how robustly ICT changes are integrated with the business and business change.

- Stage 4 examines the capacity and capability of government to achieve the intended objective, the development approach and the commercial relationships.

- Stage 5 examines the effectiveness and proportionality of governance arrangements.

Figure 4
Five stage evaluation of ICT

STAGE ① **Clarity of purpose**

  a   More informed government

  b   Improving financial management

  c   Cost-effective delivery

| Citizen | Business | Civil Society | International |

Online services

Business intelligence systems

Business systems

Back office systems

Infrastructure

STAGE ② Policies and strategies

STAGE ③   Operational uses

STAGE ④ People

Civil service

Private sector
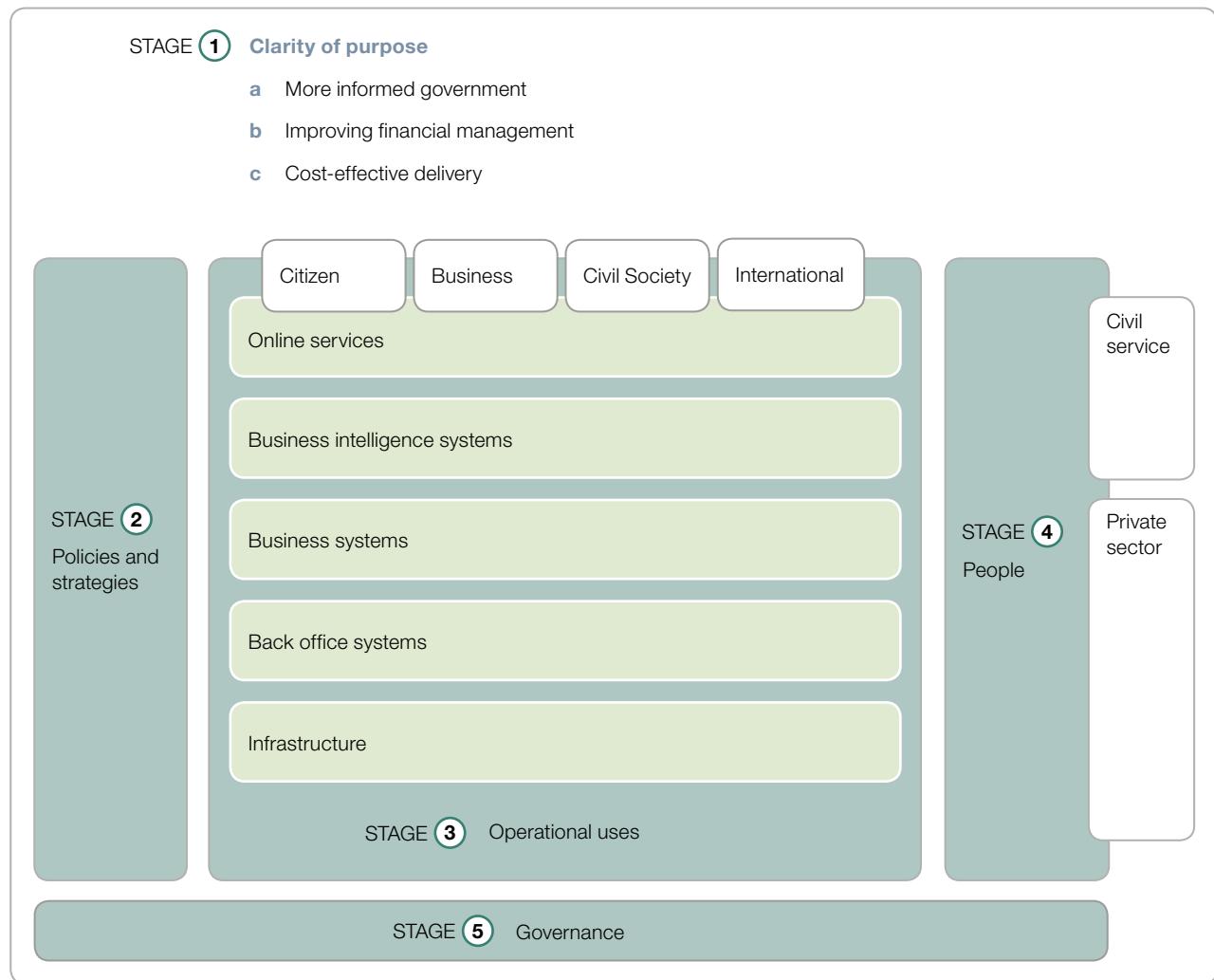
STAGE ⑤   Governance
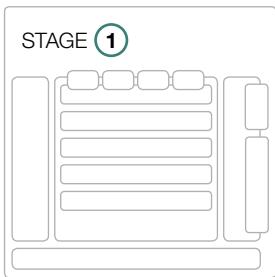
Stage 1: Clarity of Purpose

**4.3** At the outset, we will want to clearly establish the business outcomes. Also how any ICT savings or investment contributes towards the three strategic themes that we have identified as crucial to improving government performance. We will focus on three questions:

- Does the ICT improve government's access to good quality, timely and consistent information and enable more informed decision-making?

- Does the ICT enable better financial management and deliver a more sophisticated understanding of the government body's cost base?

- Are the systems designed and operated such that they effect transformational change and are they flexible enough to enable continuous improvement, both for service users but also for front line staff, civil servants or other partners providing services?
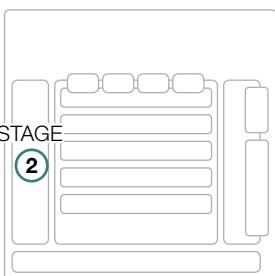
Stage 2: Policies and strategies

4.4 An extensive set of information, commercial and technical policies for ICT have emerged since 2000. They are not under unified control and risk adding complexity and therefore cost into the development and evolution of systems. ICT strategies published both by individual government bodies and for the whole of government have largely been technical. Whilst of value, as a clear signal of technical direction, these strategies have neither fully engaged the non-ICT community nor secured a central position for ICT professionals in the early definition and planning for new policies, new services and wide scale cost reduction. For any aspect of government ICT we will therefore evaluate how the policy and strategy landscape affects the cost and eventual performance of the investment. Consequently our questions will focus on:

- Are ICT policies being streamlined and becoming more coherent from a cost-effective delivery perspective?

- Is there evidence that new policy will drive more business-led decisions in the effective application of ICT?

- Is there evidence that ICT strategies are becoming more business-led and setting out more clearly how ICT will improve government's performance against its business plans?
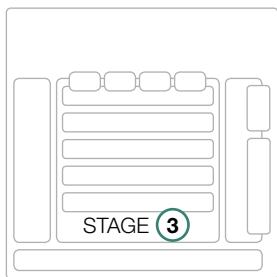
STAGE ③

Stage 3: Operational uses

4.5 Online services. After a decade of investment, many online public services are still disappointing citizens and business. But since its launch in 2004, Directgov has brought together online transactional government services and information. According to Directgov, it is now attracting up to 30 million visitors a month. One of its most successful services is Electronic Vehicle Licensing which was used by 22 million customers in 2009-10.[36] Government is committed to increasing the use of online services, and opening up services to new local providers, and our examinations will focus on:

● How effectively is ICT being deployed to open up public services to local providers and provide a platform for innovation and competition?

● What is the Government's strategy for those people in society who cannot or do not want to access services online?

4.6 Business intelligence. Historically, and compared to the private sector, government has made comparatively little systematic use of business intelligence tools and skill sets to support its high level decision-making. We will focus on:

● What steps are the Government making to automate its information management?

● Is there evidence that government is seeking to improve its use of business intelligence at all levels of performance management?

4.7 Business systems. The large scale and bespoke nature of long-standing ICT systems across government has led to high costs, long development timeframes and the risk that ICT systems are out of date by the time they are delivered. Recent work by the Institute for Government[37] has highlighted good private and emerging public sector practice with the agile development methodology.[35] On 1 February 2011 we reported on the BBC's Digital Media Initiative which included a review of the agile development method used.[38] Building on this experience, our questions will cover:

● Whether practical steps are being taken to ensure that technology is affordable, not late, not out of date and not out of step with its intended users or the business needs by the time it is delivered and brought into operation.

● Whether investment in ICT is being used to deliver sustained cost reduction.

4.8 Back office systems. Whilst government bodies have been collaborating to deliver efficiency savings through rationalisation and sharing of back office systems (in particular human resources, finance and procurement systems), significant savings have yet to be demonstrated in all but a few isolated cases. Our line of questioning will focus on:

- How is government overcoming some of the persistent barriers to sharing ICT systems and services?

- How will government create the right accountability and incentives to accelerate and reward effective collaboration?

4.9 ICT infrastructure. Historically, the centre has attempted to influence the rationalisation of ICT infrastructure and take advantage of bulk purchase of basic commodity items to reduce costs. However, the autonomy of government bodies provides for their freedom to choose and there has not been sufficient incentive to relinquish control to others. Consequently, the full potential for cost savings across government has not been realised. Our assessments will focus on:

- To what extent does the centre of government intend to mandate the choice of ICT infrastructure?

- How will any new arrangements be governed?
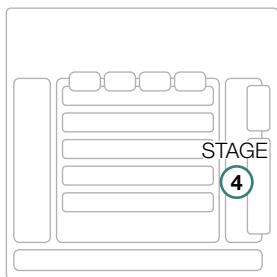
Stage 4: People

4.10 ICT has a central role in informing decisions, financial management and cost-effective delivery of services. This requires government's ICT professionals to be sufficiently experienced and senior managers to understand ICT roles and engage the profession early in planning new services and organisational change, but government has struggled to deliver this. The skills that are needed in government must ensure the professional can play this more central role in government bodies, whilst also acting as an intelligent customer of large ICT suppliers as well as the more innovative small- and medium-sized enterprises. We will focus on:

- How is government's strategic planning for the ICT profession addressing the key requirements for staff?

- Is enough being done to develop a more technology-literate government workforce, which has a greater awareness of how to get the most out of ICT?

- How is government changing its relationship with commercial suppliers to achieve sustainable cost reduction?

- What practical measures are being introduced to open up government ICT to small- and medium-sized enterprises?
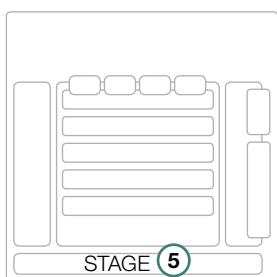
Stage 5: Governance

4.11 Adding multiple layers of governance at department level and from the centre has been one response to poorly performing ICT programmes. However, this extra scrutiny, assurance and internal audit activity has not necessarily helped to improve the quality of technical solutions, reduce risk in delivery or increase performance by commercial suppliers. Our questions will focus on:

- Whether governance arrangements are being refocused to raise the quality of business outcomes from investment made in ICT.

- Whether more effective use is being made of those seniors across government with ICT experience. Whether greater critical challenge is being introduced – to assess the feasibility of proposed solutions, better inform risk assessments and recognise and manage excessive levels of ambition.

Our future programme

4.12 Our analysis of the challenges that government has faced in getting value for money from its investments in information and technology has highlighted a number of areas that merit further investigation.

4.13 Three investigations into areas of ICT that cut across all government bodies are planned:

- Government's new ICT strategy. This is due for publication by the Cabinet Office in Spring 2011. We intend to undertake an early assessment of how robust this ICT Strategy is in relation to current government policy. This study will assess whether all of the conditions for success are being firmly established. We will look at how the Efficiency and Reform Group has been set up. We will examine what its credentials and resources are to take the strategy forward and what it is accountable for. Our examination will cover how senior management (including ICT professionals) in a range of public bodies are responding to the strategy. We will assess the degree to which they feel it will enable them to tackle the systemic challenges they have faced and deliver greater value for money from ICT. We will seek the views of suppliers of ICT to government (existing and intended), as well as potential providers of future services.

- Online services. We will report on the status of online services across government and plans to respond to channel shift. We will sample a range of transactional and information services, probing the business model, and assess service maturity, performance management and service management, as well as the use of technology. Where appropriate, we will apply industry best practice benchmarks. We last reported on online services in July 2007, following up on our first two government on the Internet reports of 1999 and 2002, and found that whilst progress had been made in moving services online, the quality of those services had not improved significantly.[39]

- Shared services. We will undertake an evaluation of shared services across government following up on our earlier cross-government review in November 2007, and our report on the Department for Transport's shared services in May 2008.[40,41] We will assess how government bodies are responding to new policies, since adoption of shared services was recommended in the *Gershon Review* in 2004[42], and how well these improve business outcomes. We will evaluate how the six providers of shared services have progressed in evolving the efficiency and effectiveness of their systems and services. Our examination will cover – in business terms – whether government customers of shared services have become more effective in securing the full benefits from collaboration. This will include a comparison with experience in the private sector. We will examine how the skills in the workforce across government and in its suppliers are being used and how well governance is enabling progress.

4.14 We will also be conducting a number of in-depth investigations into government's use of information and technology in individual organisations. Two examples of value for money studies due for publication soon are on the use of:

- geographical information systems to improve decision-making and reduce costs across the Department for Environment, Food and Rural Affairs; and

- business intelligence systems by the Ministry of Defence to improve its management of logistics.

Appendix One

Timeline of major cross-government policies, reviews and strategies for ICT from 2000 to 2010

2000-04 Focus on procurement and the supply chain

Year	Initiative	Content	Increase and improve online services	Reduce digital exclusion	Wider access to public broadband	Managing intellectual property rights	Better protected government data	More transparent data	Better management of government information	Wider use of shared services	Making ICT more green	Managing the ICT supply chain	Better project delivery	Improving ICT infrastructure	Wider use of open source software	Supporting a more professional ICT workforce
2000	e-Government: a strategic framework for public services in the Information Age (Cabinet Office)	First ever UK e-government strategy.	✔	✔					✔							
2000	The Office of Government Commerce (OGC) created	Body created to help government deliver best value from its spending by better procurement, including of ICT and major projects.										✔	✔			
2000	Review of Major Government IT projects (OGC)	Review identified improvements to government delivery of IT projects.										✔	✔			✔
2001	OGC Gateway Review process established	Process for external review of project and programme delivery introduced, including all major ICT projects.											✔			
2001	SMEs and Public Procurement (review for OGC and Small Business Service)	Review identified barriers to small- and medium-sized enterprises during public sector procurement, including procurement of ICT.										✔				
2001	UK online: 'The Broadband Future' (Office of the e-envoy)	First strategy to increase the availability of broadband services across the UK.			✔											
2002	Open Source Software use within UK Government (Cabinet Office)	Policy to ensure Open Source Software is considered alongside proprietry in government ICT procurements.													✔	
2003	Government: Supporter and Customer? (Better Regulation Task Force)	Review recommended tackling barriers to small- and medium-sized enterprises in government procurement, including ICT procurement.										✔				

2004-08 Citizen-focused services

Year	Initiative	Content	Increase and improve online services	Reduce digital exclusion	Wider access to public broadband	Managing intellectual property rights	Better protected government data	More transparent data	Better management of government information	Wider use of shared services	Making ICT more green	Managing the ICT supply chain	Better project delivery	Improving ICT infrastructure	Wider use of open source software	Supporting a more professional ICT workforce
2004	Update to the policy for the use of Open Source Software (Cabinet Office)	Update relating to government's research and development projects.													✔	
2004	UK National Broadband Strategy (Department of Trade and Industry)	Strategy for delivering better broadband provision in the UK.			✔											
2004	Enabling a Digitally United Kingdom (Digital Inclusion Panel)	Review recommended that online government services are accessible to all.		✔												
2004	Releasing resources for the frontline: Independent Review of Public Sector Efficiency (The *Gershon* Review)	Report identified £20 billion efficiency savings between 2004-05 to 2007-08, including specific savings from more modern ICT.	✔							✔						
2005	Government appoints first Government Chief Information Officer	Appointment aimed to focus ICT's potential to transform service delivery and improve operational efficiency. Role replaced that of the e-envoy, whose task was to get the UK online.	✔					✔	✔	✔			✔			✔
2005	Chief Information Officer Council formed	Council brought together chief information officers from across the public sector to address common ICT issues.	✔					✔	✔	✔		✔	✔			✔
2005	Freedom of Information Act 2000 came into force	Legislation gave citizens the right to access government information.						✔	✔							
2005	Connecting the UK – the Digital Strategy (Cabinet Office and Department of Trade and Industry)	Strategy to increase access to online services.		✔	✔											
2005	Transformational Government – enabled by technology (Cabinet Office)	Strategy for greater use of technology delivering government services, and designing those services around the needs of citizens.	✔	✔						✔				✔		✔
2006	Service transformation: A better service for citizens and businesses, a better deal for the taxpayer (The *Varney* Review)	Report recommended improving public services using new technology and greater joining up of services across departments.	✔				✔		✔							
2007	Digital Inclusion Landscape in England (Digital Inclusion Team)	Research into the scale and impact of citizens who can't access the Internet.		✔												
2007	Understanding Digital Inclusion (UK Online Centre)	Action plan to increase access to online services.		✔												
2008	Power of Information Taskforce set up	Taskforce to advise the Government on making better use of state-and citizen-generated information, and adapting to greater use of the Internet.	✔					✔	✔							
2008	Delivering Digital Inclusion – An Action Plan (Department for Communities and Local Government)	Action plan to increase public access to online services.		✔												
2008	Accelerating the SME Economic Engine: through transparent, simple and strategic procurement (HM Treasury)	Report recommended tackling the barriers to small-and medium-sized enterprise's access to government procurement.										✔				
2008	VFM Savings Programme (HM Treasury)	Government wide savings programme for 2008-09 to 2010-11.														
2008	Data Handling Review (Cabinet Secretary)	Review of government's policies for data handling following high profile data losses in 2007.					✔	✔	✔							

2008-10   Intense activity in a number of areas

| Year	Initiative	Content	Increase and improve online services	Reduce digital exclusion	Wider access to public broadband	Managing Intellectual Property Rights	Better protected government data	More transparent data	Better management of government information	Wider use of shared services	Making ICT more green	Managing the ICT supply chain	Better project delivery	Improving ICT infrastructure	Wider use of open source software	Supporting a more professional ICT workforce
2009	Operational Efficiency Programme (HM Treasury)	Report identified £3.2 billion savings in operational spending on ICT across government.							✔	✔		✔	✔	✔		✔
2009	Open Source, Open Standards and Re-use: Government Action Plan (Cabinet Office)	Strategy for government to increase its use of Open Source Software.													✔	
2009	Digital Britain Report (Department for Business, Innovation and Skills, and the Department for Culture, Media and Sport)	Strategy for the digital economy.	✔	✔	✔	✔			✔						✔	
2009	Putting the Frontline First – Smarter Government (Chief Secretary to the Treasury)	Wide-ranging report set out plans to increase government efficiency and effectiveness, for example, by getting more people online, or benchmarking ICT costs.	✔				✔	✔								
2010	Government ICT Strategy – Smarter, Cheaper, Greener (Cabinet Office)	Cross-government strategy to deliver savings on ICT, for example through reducing duplication and greater standardisation.					✔			✔	✔	✔	✔	✔	✔	✔

NOTE

1   Only major policies, reviews, strategies, structural changes and appointments that are cross-government in scope have been included (for example, individual department's strategies for ICT have not been included). Reports not commissioned by government have not been included.

Source: National Audit Office review of government literature

Appendix Two

The Skills Framework for the Information Age

Figure 5
Government IT Profession skills level

Chief Information Officer (COI) (board level)						CIO – Head of profession Skills for Information Age skills level 7
Enterprise strategy / Delivery management						Senior manager Skills for Information Age skills level 5 and 6
Strategy and architecture	Business change	Solutions development and implementation	Service management	Procurement and management support	Client interface	Lead practitioner Skills for Information Age skills level 5 / Senior practitioner Skills for Information Age skills level 3 and 4 / Practitioner Skills for Information Age skills level 1 and 2

Source: http://www.civilservice.gov.uk/my-civil-service/networks/professional/it/framework.aspx

Figure 6
Skills framework to define government ICT roles

Category	Sub category
Strategy & architecture	Information strategy
	Advice and guidance
	Business/IT strategy and planning
	Technical strategy and planning
Business change	Business change implementation
	Business change management
	Relationship management
Solution development and implementation	Systems development
	Human factors
	Installation and integration
Service management	Service strategy
	Service design
	Service transition
	Service operation
Procurement and management support	Supply management
	Quality management
	Resource management
	Learning and development
Client interface	Sales and marketing
	Client support

NOTE
1   Version 5 of the Framework is currently out for consultation.

Source: http://sfia.textmatters.com/

Endnotes

1 HM Treasury, *Operational Efficiency Programme: Final Report*, April 2009.

2 The term 'Information Technology' (IT) is sometimes used interchangeably with the term 'ICT'. Here, the term 'ICT' is used in preference, as it emphasises the fact that the subject matter includes communications technology (such as telephones, computer networks, video conferencing and mobile communications).

3 Digital Inclusion Team, *The Digital Inclusion Landscape in England*, March 2007.

4 Comptroller & Auditor General, *Staying Safe On-line*, National Audit Office, February 2010.

5 Cabinet Office, *Government ICT Strategy, smarter, greener, cheaper*, January 2010.

6 Central Office of Information, *Reporting on Progress, Central Government Website 2009/10*, 2010.

7 Kable, *Tell Us Once claims 100% success*, published online http://www.kable.co.uk/tell-us-once-programme-success-ferguson-02mar10, March 2010.

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32   Open Source Software is computer software that has its underlying 'source-code' made available for public collaboration. This can allow developers and users to adapt and improve it under licence.

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