National Audit Office

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL

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SESSION 2010–2012

21 DECEMBER 2011

The Cabinet Office

Implementing the Government ICT Strategy: six-month review of progress

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Implementing the Government ICT Strategy: six-month review of progress

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Amyas Morse
Comptroller and
Auditor General

National Audit Office

15 December 2011

This report is an early review of the progress the Government has made in implementing its ICT Strategy, since its launch in March 2011.

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This report can be found on the National Audit Office website at www.nao.org.uk/ict-strategy-2011

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Summary

1 This report is an early review of the progress the Government has made in implementing the *Government ICT Strategy* (the Strategy), since its launch in March 2011. The Strategy was published by the Cabinet Office and contains 30 actions, which are designed to: reduce waste and project failure in ICT, create a common ICT infrastructure, and reform public services and make government more efficient.

2 In July 2011, the Committee of Public Accounts welcomed the Strategy, but described it as 'very ambitious'. The Committee was concerned that it would deliver no greater benefit than its predecessors. Given the concerns of the Committee, we have assessed the: leadership and incentives to comply with the Strategy; planning to deliver business change and measure benefits; communication and engagement with stakeholders; and whether the deadlines have been met.

Key findings

3 **The Cabinet Office has made a positive and productive start to implementing the Strategy.** The Cabinet Office has established new roles to lead and deliver the Strategy. Many senior ICT professionals have worked together on the actions due in this period and most have been delivered on time.

4 **All parts of central government agree the principles of the Strategy, but the Cabinet Office needs to do more work to achieve full engagement with departments' plans.** Meeting targets for cost and staff reduction in ICT is challenging, but central government cannot reduce costs sustainably if departments and agencies work alone. Government must use simplified and shared ICT infrastructure, reuse ICT solutions and deliver better performance in technology-led change. The Strategy offers some solutions to these issues.

5 **The Government is implementing the Strategy differently than previous strategies and there is a greater chance that the actions will be embedded into the largest departments. In particular:**

- **The Cabinet Office has brought together a broader set of skills and delivery experience.** The chief information officers (CIOs) and senior directors from the six largest spending departments are supported by ICT and procurement professionals from the Cabinet Office. This mix of staff from across government are making sure that Strategy solutions are aligned with the business needs of departments.

- **The Cabinet Office has created a new CIO Delivery Board (the Board) to lead implementation.** Led by the Government CIO, the Board has fewer members and is more focused on decision-making. It meets monthly and is in contrast to previous arrangements for strategy delivery where the Cabinet Office consulted quarterly across all departments. This enables the Board to make faster progress.
- **Members of the Board are directly responsible to the Government CIO and the Minister for the Cabinet Office for implementing the strategy across government.** Their personal objectives have been changed to reflect this accountability. They are also accountable to their own ministers for delivering ICT services.
- **The Cabinet Office is applying mechanisms that make sure departments comply with the Strategy.** The Major Projects Authority operates the ICT spending controls on projects over £5 million in value and provides assurance on around 200 central government major projects. The Authority will be checking that new business cases involving ICT comply with the Strategy as new common infrastructure, methods and standards are approved.
- **The Cabinet Office is introducing stronger programme and portfolio management.** The Strategy contains a complex set of interrelated actions. The Cabinet Office has grouped these actions into 19 technical delivery areas in the *Government ICT Strategy – Strategic Implementation Plan* (the Plan) published on 21 October 2011. The senior responsible owners of the projects have started to map dependencies between the various technical solutions that they are required to deliver. The Board is developing a 'dashboard' to monitor overall progress on implementation.

6 **Although the Board has made progress in implementing new technical solutions, we have identified areas where progress has not advanced sufficiently in the first six months.** This does not imply a lack of attention on the part of those involved, but reflects the ambition the Government has for the pace of change. Progress needs to be made on a number of parallel fronts:

- **The Cabinet Office has not yet developed a system to measure sustained change arising from implementing the Strategy across central government.** The Board has explained how individual actions will progress and included benefit forecasts and output metrics for some of the delivery areas in the Plan. The Cabinet Office has not yet defined how reform and improved efficiency in public services will be measured across central government, as business outcomes against an agreed baseline.

- **The Board has been managing and planning the resources to deliver the Strategy informally, but without a clear resource plan, short-term capacity and capability gaps may start to hinder progress.** The Government has always intended to implement the Strategy using existing resources. We have estimated that at least 70 people (full-time equivalents) from the public sector have worked on planning and implementing the Strategy in the first six months. As of October 2011, based on forecasts from the Board members, we estimate that these resources will need to more than double over the next 18 months. At least another 78 staff or contractors (full-time equivalents) are needed. Many will need to have specific technical and business skills to meet the requirements of the work. However, there is no evidence that the Board is undertaking resource planning to move 19 technical delivery areas into a major cross-government business change programme.
- **The Board has not yet done sufficient planning about when and how central government bodies will adopt the Strategy solutions.** The Board does not have an implementation schedule by department for all the delivery areas.

Conclusion

7 At the end of the first six months, new arrangements are in place to implement the Strategy. The leadership, governance and compliance mechanisms for delivery are different from those of the past and have the potential to deliver benefits. Government has adopted a pragmatic and collaborative approach and has largely met the first round of the Strategy deadlines. Thirty actions from the Strategy have been rationalised into 19 delivery areas with a more consistent plan about how the new approaches, new standards and common ICT infrastructure will be taken forward.

8 Against this positive backdrop we have some significant concerns:

- Planning – the Strategic Implementation Plan is lacking a resource plan and a map for how and when departments move to the Strategy solutions.
- Capability – establishing a baseline requirement for ICT professional resources across central government has not been carried out, and key immediate skills gaps have not been filled.
- Evaluation – there are no clear criteria for measuring business outcomes.

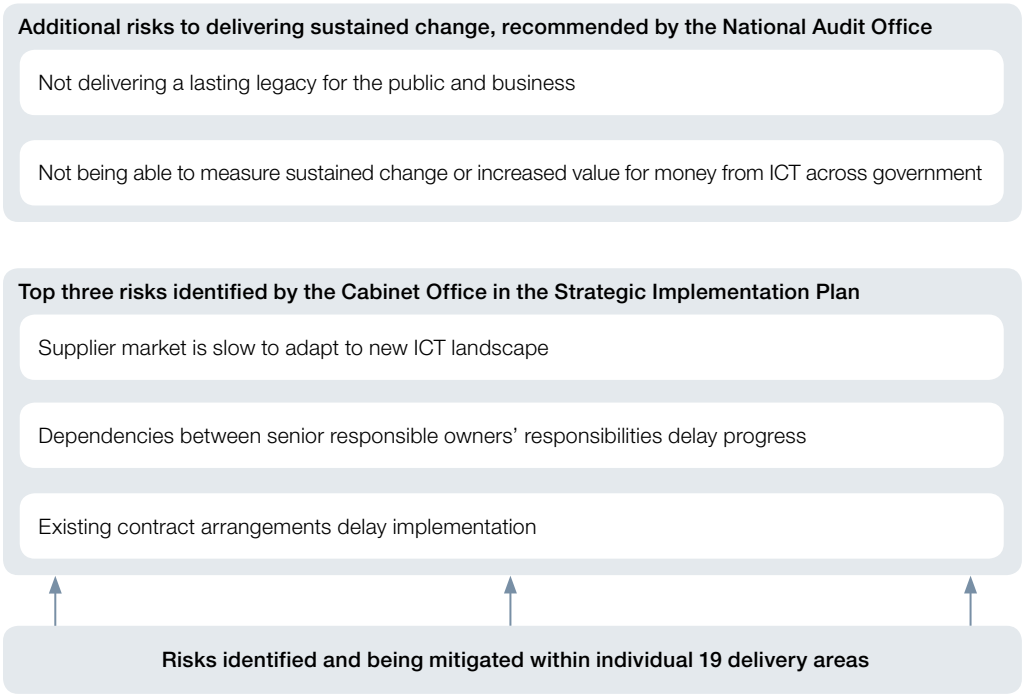
These concerns can be dealt with but need to be addressed in the short term if they are not to become significant barriers to progress.

Recommendations

9 The Cabinet Office identifies three key risks in the Plan. These are: the supplier market adapts slowly; unidentified dependencies between the 19 delivery areas slow down progress; and existing contracts prevent or delay implementing parts of the Strategy. Although these are important risks that need to be managed, they have been identified 'bottom-up' by senior responsible owners' risk assessments of their individual delivery areas. These risks do not fully reflect the scale of business change across government and so far, the Cabinet Office has paid less attention to how it drives a major cross-government behavioural change programme that affects all of the civil service.

10 We have identified two additional high-level risks (**Figure 1**). These are: the Strategy does not deliver a lasting legacy for the public and business, and government cannot measure progress or demonstrate value for money as the change programme proceeds.

Figure 1
Risks to the Cabinet Office in delivering the Strategy



Source: National Audit Office

11 To help government mitigate these two additional risks and broaden the focus to driving business change, we make the following recommendations:

Delivering a lasting legacy for the public and business

a **The Board should do more to help government organisations to use the new ICT products and services created through the Strategy to realise benefits.** As the technical work matures, the Board should plan how and when government organisations can use the new solutions being developed, such as cloud computing and 'agile' delivery. The Cabinet Office should also carry out more detailed planning about how it will work with central government and ICT suppliers to overcome barriers to change and agree manageable plans to adopt new practice.

b **The Cabinet Office needs to engage more with the senior civil service who are not ICT professionals so that government reform programmes have ICT at their core.** The Chief Operating Officer for the Efficiency and Reform Group told the Committee of Public Accounts that government has learned that there is no such thing as an ICT project, only business projects involving ICT. To do things differently, government requires large-scale behavioural change. The Cabinet Office needs to increase its activities to explain, in non-technical language, how the Strategy will improve the way government operates and enhance civil service capability to deliver better public services.

c **Gaps in ICT capability remain a serious challenge to implementing the Strategy.** The new *Government ICT Capability Strategy* sets out how ICT skills in the public sector can be improved in the medium- to long-term. However, the Cabinet Office and departments and agencies need to immediately address capability gaps, particularly in procurement, supplier relationship management, new methods (for example, 'agile' delivery) and digital services.

d **The Cabinet Office must maintain a productive relationship with suppliers, as both sides face fundamental change in conducting their business.** Changes in procurement are crucial to implementing the Strategy. Both government and suppliers need confidence that leaner processes and stronger capabilities are coming. It is important to celebrate some of the successes where the ICT and procurement professions across government have worked together with industry to shape better contracts. This will help to maintain productive relationships.

Measuring progress and value for money

e **The Cabinet Office needs to develop measures to show progress and the value for money achieved by implementing the Strategy.** The Cabinet Office needs to define a small number of business outcomes for the Strategy and the baseline against which they will be measured. With limited resources, the Cabinet Office needs sufficient management information to prioritise projects that show significant benefits, cutting areas that are delivering only marginal return.

f **Maintaining an effective portfolio management team in the Cabinet Office will help government oversee successful outcomes.** The Government ICT team in the Cabinet Office needs to have the necessary technical skills, capacity and authority to challenge the Board members, ICT suppliers and government organisations about how they implement new solutions.

g **There are important lessons that the Cabinet Office could learn from international experience.** The experiences of the American, Australian, Danish and Dutch governments in integrating systems and developing common infrastructure, moving public services online and managing and developing the skills of the ICT workforce are valuable. The Cabinet Office should use the lessons learned by others to maintain the momentum to implement the Strategy and produce stretching plans and benefit forecasts in the delivery areas where this has not already been done.

Part One

Introduction

1.1 In March 2011, the Cabinet Office published the *Government ICT Strategy* (the Strategy).[1] In this Part, we set out the background to the Strategy, examine Parliament's initial response to it and explain why we are reviewing implementation after six months.

Background

1.2 Information and communication technology (ICT) is critical for government to operate effectively and should improve how citizens and businesses communicate with government. Yet government has faced significant challenges in delivering value for money from its ICT investment, as we set out in our report *Information and Communication Technology in government.*[2]

1.3 The Cabinet Office has accepted that government ICT projects have tended to be too big, lengthy, risky and complex, and that there have been high profile failures. Departments have worked independently of each other to design, procure and run their own ICT systems, rarely reusing or adapting systems available elsewhere in government. In addition, departments' systems often do not communicate easily with one another.

The Strategy

1.4 The Cabinet Office aims to tackle these systemic problems in the new Strategy. It has set out 30 actions for central government to deliver by March 2013. On 21 October 2011, the Cabinet Office published its *Government ICT Strategy – Strategic Implementation Plan* (the Plan) which grouped the 30 actions into 19 delivery areas.[3] **Figure 2** shows how these actions and delivery areas fall into three categories of business change:

- Reducing waste and project failure by improving procurement processes, making systems more flexible and increasing the skills of ICT professionals.

1 The Cabinet Office, *Government ICT Strategy*, March 2011.
2 Comptroller and Auditor General, *Information and Communication Technology in government: Landscape Review,* Session 2010-11, HC 757, National Audit Office, 17 February 2011.
3 HM Government, *Government ICT Strategy – Strategic Implementation Plan,* October 2011.

- Creating a common ICT infrastructure, including communication networks, business applications, data centres, desktops and mobile devices. For example by providing standards and contracts to enable government bodies to buy ICT at lower cost.
- Using ICT to enable and deliver change. The Government has a digital strategy to move public services online ('digital by default'). It also wants different groups from the voluntary and community sector to be able to provide public services.

Figure 2
Description of the actions within the Strategy

Reducing waste and project failure

Area 1 – ICT assets and services knowledgebase

Create a database recording government ICT equipment, systems and services, and their availability for reuse (**Action 1**)

Area 3 – Procurement

Provide a new system for buying items such as PCs, laptops and monitors (known as commodity ICT) that have been built to an agreed common standard (**Action 2**)

Publish guidance on the policy for individual ICT projects not to cost more than £100 million in their lifetime (**Action 5**)

Establish a new approach to procurement that will reduce timescales and cost (known as lean sourcing) (**Action 6**)

Publish details of the length of procurements and contracts awarded to small businesses (**Action 7**)

Publish all documents for new tenders over £10,000 (**Action 8**)

Area 2 – Open source

Publish documents, including guidance and best practice, to help procurers evaluate open source (software which guarantees the right to access and modify the 'source code', and to use and redistribute with no royalty) (**Action 3**)

Set up three advisory groups to educate, facilitate and promote the use of open source solutions (**Action 4**)

Area 4 – 'Agile' delivery methods

Develop an approach for government to manage projects flexibly using 'agile' (using user feedback to deliver systems in small pieces and keeping ICT in line with emerging business requirements) (**Action 9**)

Agree the common tools required for 'agile' delivery (**Action 10**)

Identify specialists who will work together across departments and industry to provide advice on 'agile' delivery (**Action 11**)

Identify a project to pilot 'agile' delivery methods within each department (**Action 12**)

Area 5 – Capability

Publish a strategy on government ICT capability with a plan to develop talent among existing civil servants (**Action 13**)

Figure 2 *continued*
Description of the actions within the Strategy

Creating a common ICT infrastructure

Area 6 – Open data standards

Create a process for the submission of ideas, candidate standards and transparency in the definition of standards. This will enable the delivery of a core set of essential open data standards to improve the sharing of information between departments, businesses and citizens (**Action 15**)

Area 11 – Data centre consolidation

Set up a programme to reduce the cost of running facilities used to house ICT services, such as computer systems, networks and storage systems (**Action 16**)

Area 10 – Public Services Network

Facilitate the delivery of a private sector supplied, secure network built to common industry standards, for use in delivering public services across the whole of government at less cost (**Action 17**)

Area 12 – Desktops and devices

Publish a strategy for standardising desktops and other devices, such as smart phones and tablet computers, including detailed implementation plans (**Action 18**)

Develop a desktop prototype which uses applications and computing services delivered through the Internet (**Action 19**)

Area 9 – Cloud computing

Publish a strategy, with detailed implementation plans, for cloud computing to provide ICT services, such as software and data storage, to government on demand through the Internet (**Action 20**)

Create an online applications store for government to buy ICT services, such as email or data storage, on a pay-as-you-go basis (**Action 14**)

Area 7 – Reference architecture

Publish a framework that shows the fundamental organisation of business and ICT systems, listing the components and indicating their relationships to each other (**Action 21**)

Area 8 – Open technical standards

Agree common open technical standards for central government so that systems from different suppliers can connect, communicate and share data (**Action 22**)

Area 14 – Information strategy

Develop a strategy to be used across departments. This aims to provide a common basis for the secure, efficient, open and safe creation and use and re-use of information (**Action 23**)

Area 13 – Greener ICT

Publish a strategy for greener working practices and reduce the carbon emissions of ICT equipment, in line with other government policies (**Action 24**)

Area 15 – Cyber security risk management regime

Develop a risk management system to use on the technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorised access (**Action 25**)

Figure 2 *continued*
Description of the actions within the Strategy

Using ICT to enable and deliver change

Area 16 – Channel shift

Move selected government services online (**Action 26**)

Area 17 – Application Programming Interfaces

Create cross-government standards on software-based components that are designed to enable ICT systems from different suppliers to connect, communicate and share data (**Action 27**)

Area 18 – Online government consultations

Enable the public to respond to all government consultations online (**Action 29**)

Area 19 – Internet and social media

Develop guidelines for departments on staff access to the Internet and using social media to contact the public (**Action 30**)

NOTES

1 Figure 2 is written in non-technical language and does not use the actual words of the Strategy published on 29 March 2011.

2 The CIO Delivery Board has since developed its plans to implement the Strategy and these were published in the Strategic Implementation Plan of 21 October 2011.

3 Following planning work on area 14, the Board has revised its commitment to develop an Information Strategy. The Board will publish a set of common underpinning principles for an Information Strategy. Each Department will develop its own Information Strategy to apply these common principles within its own sector.

4 Action 28 – to appoint a Director of ICT Futures – is not included as a delivery area in the Plan.

Source: National Audit Office

1.5 These delivery areas will produce a range of products and services which, if well designed and applied successfully, will offer government organisations the opportunity to deliver greater value for money from ICT. However, realising the benefits relies on a wide range of organisations adopting the Strategy solutions and applying them to deliver real change.

1.6 Although covering similar technological themes as the strategy of January 2010,[4] the Strategy takes a higher level perspective and, critically, must be implemented on a much tighter timescale. The Government is taking a different approach to other countries we researched, by trying to achieve three types of business change in parallel. The American, Australian, Danish and Dutch governments have adopted a more phased approach, concentrating on one major change at a time. For example:

- In Australia the 2006 ICT strategy addressed the need to reduce spending on ICT by coordinating procurement, increasing systems integration and publishing data on costs. Following a review in 2008, the Government introduced its ICT Reform Program to accelerate improvements in governance, capability and sustainability and the delivery of efficiencies.[5] Since April 2011, the Government has focused on a strategy for delivering better services to people and improving its operations.
- Before 2011 there was no single ICT strategy in the Netherlands. The Government focused on using ICT to stimulate economic growth by developing e-government and digital access. In November the Government published its first ICT strategy, which says that common ICT infrastructure is needed to run government operations cost-effectively.

A summary of the government ICT strategies of Australia, Denmark, the Netherlands and the United States of America is in Appendix Two.

Parliament's response to the Strategy

1.7 A report by the Committee of Public Accounts published in July 2011[6] welcomed the direction and principles of the Strategy but described it as 'very ambitious'. The Committee noted that government had previously tried to deliver better outcomes for the public and businesses, and significantly reduce operational costs, using ICT. The Committee was concerned that the Strategy would deliver no greater benefits than its predecessors, given its lack of detail. Appendix Three lists the Committee's recommendations in full.

4 HM Government, *Government ICT Strategy: Smarter, cheaper, greener,* January 2010.
5 Sir Peter Gershon CBE FREng, *Review of the Australian Government's use of Information and Communication Technology*, August 2008.
6 Committee of Public Accounts, *Information and Communications Technology in government,* Fortieth Report of Session 2010–12, 5 July 2011.

Our approach

1.8 Given the concerns of the Committee, we have undertaken an early review of the work on the Strategy, six months after publication. Our report assesses general progress and identifies key priorities for government. We do not report in detail on the 19 delivery areas. Rather, we highlight progress in some of the projects that are critical to delivering the wider aims of the Strategy, and which pose particular risks.

1.9 This report is part of a series of NAO publications on ICT (Appendix Four) and is presented in three parts:

- Leadership and governance (Part Two).
- Managing the implementation programme (Part Three).
- Progress in delivering the actions (Part Four).

1.10 Our review has focused exclusively on central government. The Scottish Government, Welsh Government, Northern Ireland Executive and local government all have their own ICT strategies but we have not assessed them.[7]

1.11 To prepare this report we examined published documents and delivery plans. We interviewed key staff across government and ICT suppliers. A summary of our methods is in Appendix One.

7 Welsh Government, *ICT Strategy for the Public Sector in Wales*, 2011. Department of Finance and Personnel, *Northern Ireland Civil Service Information Systems Strategy,* January 2011. The Scottish Government, *Scotland's Digital Future A Strategy for Scotland,* March 2011. Socitm Local CIO Council, *Planting the Flag: a strategy for ICT-enabled local public service reform,* May 2011.

Part Two

Leadership and governance

2.1 In this Part we assess the new leadership and governance structures the Cabinet Office has established to implement the Strategy. We also report on how central government and ICT suppliers have responded to the Strategy.

Leadership of the Strategy

2.2 Previously the Chief Information Officer (CIO) Council, working with the Cabinet Office, was responsible for delivering government ICT strategies. The CIO Council is a large body, which includes representatives from central and local government, as well as the devolved administrations. The Council focused on achieving consensus to coordinate changes in ICT.

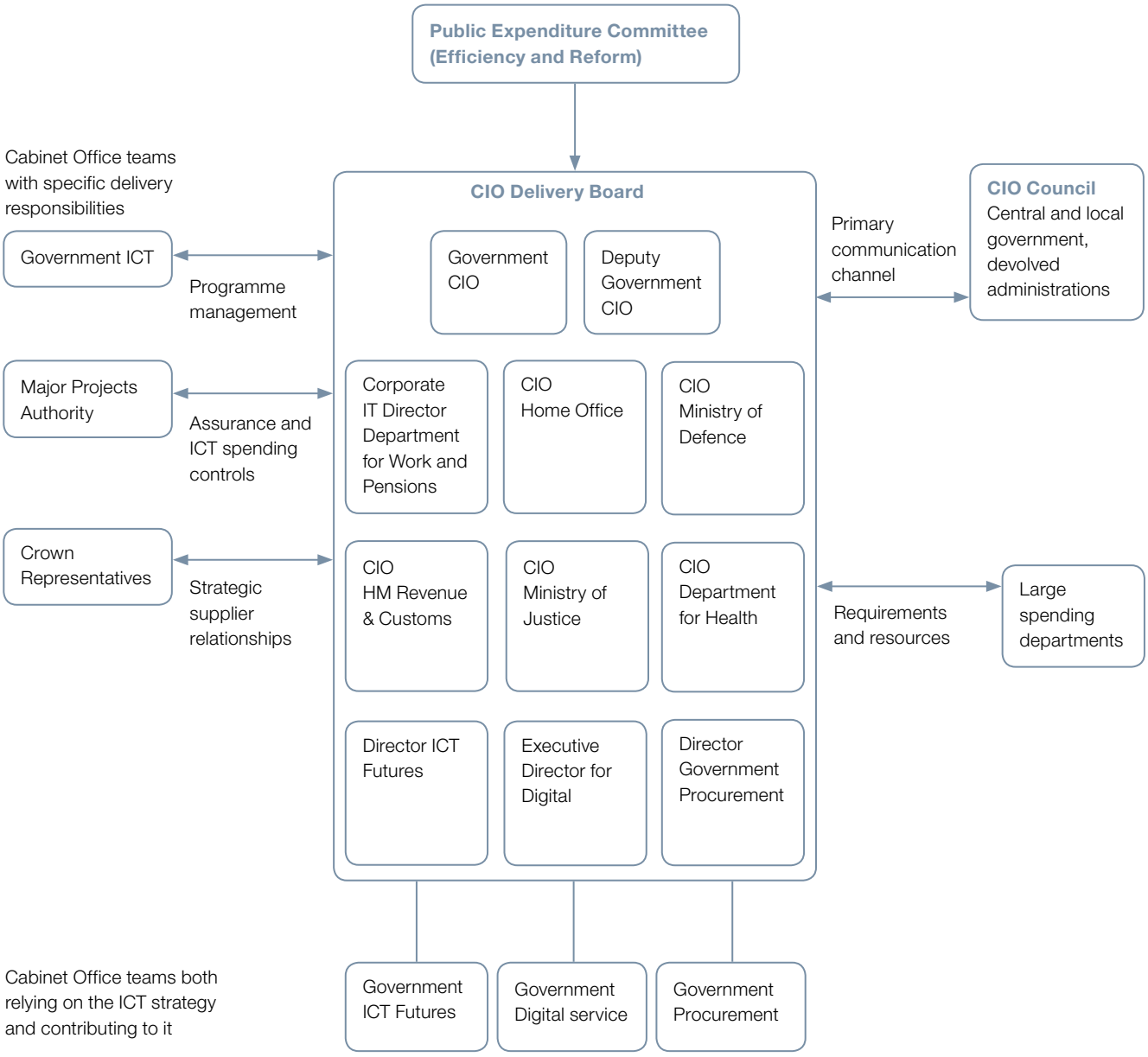
2.3 In April 2011, the Cabinet Office created a small CIO Delivery Board (the Board), led by the Government CIO to implement the Strategy. Members of the Board are from the six largest spending departments and the Government ICT team, Government Procurement and the Government Digital Service in Cabinet Office (**Figure 3**).

2.4 The Minister for the Cabinet Office has said that members of the Board are directly accountable to him for implementing the Strategy and for the projects in delivery areas for which they are the Senior Responsible Owner. Their personal objectives reflect these responsibilities. The Netherlands Court of Audit has concluded that ministers hold the key to successful implementation of ICT. It recommended that ministers needed to strengthen their grip on projects to steer them effectively.[8]

2.5 As Board members are responsible for both developing the ICT solutions and for implementing them within their own Departments, there is a greater chance that actions in the Strategy will be embedded into the largest departments. However, they are also accountable to their own ministers for delivering ICT services. This dual accountability is new and members of the Board felt it was a positive development. Dual accountability does, however, pose a risk as CIOs may find a conflict between their Departmental priorities for operations and the aims of the Strategy, although no one reported any problems.

8 Algemene Rekenkamer, *Lessons Learned from Government ICT Projects,* 29 November 2007.

Figure 3
Governance structure for implementing the Strategy



Source: National Audit Office analysis of Government ICT Strategy – Strategic Implementation Plan, October 2011

2.6 The Board meets once a month, more frequently than the CIO Council. Members told us that the Board was small enough to make decisions quickly. CIOs from other departments and agencies told us that they understood the need for a smaller decision-making body to lead on the Strategy. They did, however, want more information and updates on the detailed work conducted by the Board. A recent report for the Australian Government[9] on the implementing of the ICT Reform Program stated "the view from outside the CIOC [CIO Committee], especially from smaller agencies that are not represented on it, is that its agenda reflects almost exclusively the perspectives of large agencies." The Cabinet Office is aware of the potential for creating a two-tier system and plans to put more resources into communicating with the wider central government community.

Governance of the Strategy

2.7 The Board reports progress on implementing the Strategy to the Public Expenditure Committee (Efficiency and Reform), a ministerial committee jointly chaired by the Minister for the Cabinet Office and the Chief Secretary to HM Treasury.

2.8 The Major Projects Authority (the Authority) plays an essential role in ensuring departments comply with the Strategy and deliver projects to time and budget. The Government set up the Authority on 1 April 2011 to scrutinise plans, ensure accountability and inform the Treasury's decisions on whether to approve large-scale projects funded and delivered by central government. The Authority has three main activities relating to the Strategy:

- Operating the ICT spending controls. The Authority approves all ICT spending by central government above £5 million. It plans to use the new database of ICT assets and services, known as ASK ICT, which lists 25 departments and agencies' software and ICT systems, to make sure that organisations share and reuse technical solutions where possible.
- Providing assurance on two projects from the Strategy: the Public Services Network, a private sector supplied, secure networks, and the G-Cloud Programme, which has two components. First, data centre consolidation which will increase sharing and reduce unused capacity in facilities to house computer, telecommunications and storage systems. Second, cloud computing and an applications store will provide online ICT services, such as software and data storage, to government organisations on-demand, and on a pay-as-you-use basis, through the Internet.
- Overseeing around 200 major projects being managed across government, many of which have ICT systems within them.

9 Dr Ian Reinecke, *Independent Review of Implementation of the ICT Reform Program*, Australian Government, June 2010.

2.9 The Authority is also addressing the Committee of Public Accounts concerns about the high turnover of senior responsible owners (SROs) and their lack of experience and accountability for the projects. The Authority has identified and engaged with all SROs of projects in the Government's major projects portfolio and will monitor whether they remain in post until a suitable break point in their project. The Authority will address SRO capability issues by establishing the Major Projects Leadership Academy.

Response to the Strategy

2.10 The Committee of Public Accounts noted that successfully implementing the Strategy relied on it being adopted by government and its ICT suppliers.

2.11 Neither the departments and agencies or the ICT suppliers we interviewed identified any significant gaps in the Strategy. Departments and agencies support the rationale for the Strategy, as it will help them to meet ICT cost and staff reduction targets. The Strategy has a sufficiently wide scope to meet their needs to simplify ICT, use common infrastructure and ultimately move to shared service management. ICT suppliers said they agreed with the technical direction of the Strategy and that it aligned with current developments in the ICT industry. They recognised that the Strategy made sense in the current climate to reduce costs in government. Their concern, however, was that short-term financial pressure conflicted with the need for the longer-term reform of public services.

2.12 Senior managers in central government and the ICT industry were willing to align their strategies for ICT with new cross-government solutions and standards. However, all considered they needed more detail on the plans to implement the Strategy. Departments and agencies not represented on the Board were uncertain about exactly what they had to do and the timing of actions. Their primary channel for communication, the CIO Council, had met only once during the first six months of the Strategy. Senior managers in central government told us that they had plans for new ICT contracts in case the common solutions developed for the Strategy were not available in time. Suppliers were cautious about investing in new products and services because of government's poor progress in implementing previous ICT strategies.

2.13 Government and ICT suppliers are seeking to engage on the Strategy. Twenty-three working groups have been established to support the delivery projects. Local government, devolved administrations, the Fire and Rescue Service, Intellect (trade association for the UK technology sector), and the British Computer Society are members of these groups. Government organisations are also participating by responding to consultations, requests for data or as volunteers for pilot projects. A number of suppliers have offered to support government in developing its thinking and help accelerate the pace of change in ICT in government.

2.14 The culture change required to implement the Strategy may be a significant barrier. The Cabinet Office has limited resources to engage with stakeholders but it is organising joint government and industry events. For example, on 21 November 2011, the Cabinet Office provided a snapshot of future potential contracting opportunities and explained how a new approach to supply chain management will help small businesses engage more effectively in the public market.

2.15 The Cabinet Office needs a communication plan that matches the ambition of this change programme. The delivery areas are at different stages of creating their own communications plans, and, as a result, the Cabinet Office has only recently begun to develop and coordinate central high-level communications.

2.16 The Cabinet Office started to design material to communicate the aims and benefits of the Strategy across government in a non-technical way. However, none of the staff in departments and agencies we interviewed were aware of the material. Unless senior civil servants, who are not ICT professionals, understand what is required from their organisations and the advantages of collaborating, change will be slow.

Part Three

Managing the implementation programme

3.1 In this part, we consider how the Board, supported by the Cabinet Office's Government ICT team, is managing Strategy delivery. In particular, we focus on the overall plans for the delivery areas, resourcing of the work and measuring progress. We also look at the Cabinet Office's early forecasts of the expected cost savings.

Managing Strategy delivery

Strategic Implementation Plan

3.2 The Committee of Public Accounts criticised the lack of detail in the Strategy published in March 2011. The Cabinet Office provides some of the necessary information in the *Government ICT Strategy – Strategic Implementation Plan* (the Plan) published in October 2011.

3.3 The Cabinet Office states the purpose of the Plan is to "translate the vision into real outcomes", but our assessment suggests it does not yet go this far. In particular:

- it does not provide a route map for how and when departments will move to the new ICT solutions;
- nor does it set out how the Board will work with central government and ICT suppliers to overcome barriers to change, although it has recognised this as a risk. Our international research found that those responsible for influencing government organisations to use new approaches to ICT often underestimated the effort required to embed behaviour change; and
- there is a risk that government has not fully thought through the additional resources needed in the 19 delivery areas over the next 18 months. The Plan contains no estimates of resources.

Planning

3.4 The individual plans for the 19 delivery areas are presented in a standard format. This summary covers the challenges, objectives, key metrics, milestones, accountabilities and risks associated with implementing each project. We found the plans to be of variable quality. Our immediate concerns are that:

- twelve delivery areas do not have a statement about how the work will be used by departments and agencies to bring benefit past 2013; and
- eleven do not have metrics, such as cost per full-time equivalent employee, that indicate how performance will be measured against the initial objectives.

Resourcing

3.5 Based on information supplied by departments, we have estimated that at least 65 staff and contractors (full-time equivalents) in the Cabinet Office and the public sector worked on the Strategy in the first six months.

3.6 The Cabinet Office intended that delivering the Strategy would be resourced from existing budgets. To implement the Strategy it has drawn on the wider expertise in the Cabinet Office. The Government ICT team are providing programme management support to the Board. The Crown Representatives, a group of senior procurement and commercial directors recently established by the Cabinet Office to ensure that government acts as a single customer, are supporting work on strategic relationships with ICT suppliers and small businesses. The Government Procurement Service is providing ICT procurement specialists to set up contracts and methods to purchase commodity ICT and the common infrastructure.

3.7 The Cabinet Office has recruited senior people from outside central government to the Board. The Executive Director for Digital is responsible for ensuring that the Government offers digital products that meet people's needs. The Director of ICT Futures advises on how government can use innovative new technology to deliver better, cheaper solutions for public services.

3.8 Staff have been redirected from other tasks to work on implementing the Strategy. We have also found collaborative working across departmental boundaries. For example, HM Revenue & Customs and the Ministry of Defence have combined resources to develop a strategy for greener ICT. Teams producing the strategies for cloud computing and common desktops and mobile devices have worked together to reduce the risk of overlap and gaps.[10] The Government CIO has promoted collaboration and it will be important that his departure, and that of the Deputy CIO in early 2012, does not adversely affect this new way of working.

10 HM Government, *Greening Government: ICT Strategy*, 28 October 2011. HM Government, *Government Cloud Strategy*, 28 October 2011. HM Government, *Government End User Device Strategy*, 28 October 2011.

3.9 So far these resources have been adequate to establish the leadership and governance, undertake initial planning and scope out the work required. The Cabinet Office has focused on bringing in staff with the necessary technical skills to work on managing the implementation of the Strategy. However, our evidence shows that the Government ICT team has been under-resourced due to the time taken to fill vacant posts.

3.10 We collected forecasts of staff from the senior responsible owners of all projects, except cloud computing and 'agile' delivery as the teams were not in a position to provide a reliable estimate. In total, we found that the public sector will require at least another 84 people (full-time equivalents) to deliver the projects in the Plan.

3.11 We are concerned that there are specific skills gaps in the short term that threaten the delivery of the Strategy's benefits. There is no formal mechanism to make sure staff are allocated to the highest priority areas of work. Our international research on implementing ICT strategies found that one of the most significant challenges governments face is the availability of sufficiently skilled and experienced ICT, project management, commercial and procurement staff. For government to have the necessary capability to deliver the Strategy it will need to join up ICT with other professional areas.

Estimates of savings from the Strategy

3.12 The Plan includes the Government's provisional estimate of £1.4 billion savings from the Strategy in the current spending review period 2011-12 to 2014-15. **Figure 4** overleaf shows that:

- £790 million of savings can be made by government successfully delivering and taking-up four types of common ICT infrastructure; and
- £650 million of savings came from the ICT Moratorium in 2010, a process which resulted in government stopping or reducing its spending on projects involving ICT of over £1 million.

3.13 The only cost savings forecasted from the 19 delivery areas come from government moving to the new ICT infrastructure between 2011-12 and 2014-15. Teams are at a relatively early stage in benefits forecasting and not all projects are underpinned by a robust business case or a baseline. We have examined progress across these four projects in more detail in Part Four.

3.14 In the our report *The Efficiency and Reform Group's role in improving public sector value for money*,[11] we identified a number of risks to accurately reporting savings which are also relevant to the savings estimated from the ICT Moratorium in the Strategy. The risks are as follows:

- Cancelled projects involving ICT may include 'spend to save' schemes, unfunded proposals, or be replaced with other schemes.
- Where projects involving ICT have been de-scoped, savings may not take account of the costs of cancellation.

11 Comptroller and Auditor General, *The Efficiency and Reform Group's role in improving public sector value for money*, Session 2010-11, HC 887, National Audit Office, 25 March 2011.

Figure 4
Government's estimate of savings from the Strategy

Programmes	2011-12 (£m)	2012-13 (£m)	2013-14 (£m)	2014-15 (£m)	Total (£m)
Common infrastructure[1]					**790**
Public Services Network	30	100	130	130	390
Cloud Computing and Applications Store	–	20	40	120	180
Data centres	–	20	60	80	160
Desktops and devices	–	10	20	30	60
ICT Moratorium[2]	130	290	130	100	**650**
Total	**160**	**440**	**380**	**460**	**1,440**

NOTES

1 For the common infrastructure benefits the Cabinet Office collected estimates from each of the teams responsible for delivery and reviewed the data for reasonableness and certainty. It scaled down the forecasts from previous business cases. We have not validated the individual figures.

2 ICT Moratorium – these savings were either due to departments stopping their own projects or the Cabinet Office's review process which resulted in a change to the scope of a project in 2010. The Cabinet Office has made assumptions about how much of the cost of the project was due to ICT and when these costs would have arisen across the Spending Review period to 2014-15.

Source: The Cabinet Office Government ICT Strategy – Strategic Implementation Plan, October 2011

3.15 We have separately identified that the forecasts for savings from 2012 onwards are low as the Government does not yet have a full list of ICT contracts that are due for renewal.

Measuring progress

3.16 The Committee of Public Accounts said that the Strategy lacked a baseline from which to measure progress. It also recommended that the Cabinet Office should identify a small number of measurable business outcomes, or direct indicators, to enable it to evaluate the success of the Strategy. The Board has started to develop a 'dashboard' to monitor some high-level performance metrics: the progress of actions, and the risks and benefits of the Strategy. We found there were no clear metrics against which value for money could be measured, or thresholds to warn the Board when it needs to take corrective action to keep the implementation on track. The Cabinet Office acknowledges that government does not have a definitive record of ICT spend in central government in the Plan, and told us it is working to address this along with other metrics in a 2012 Strategy progress update.

Part Four

Progress in delivering the actions

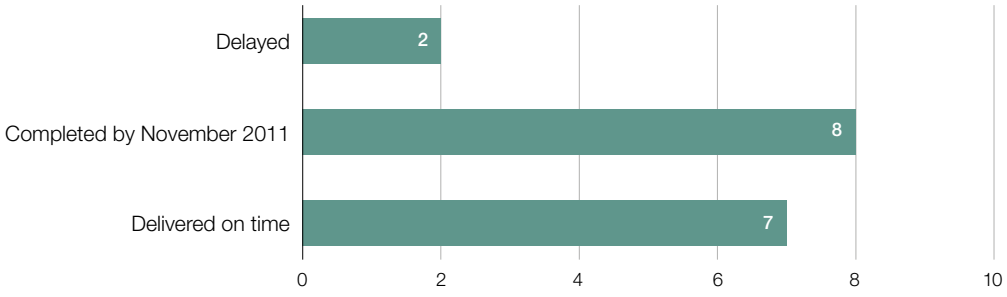
4.1 In this Part we assess government's achievements against the actions in the Strategy. We focus on three key elements where we, and those we interviewed in government and industry, have particular concerns. These are the professional ICT capability strategy,[12] common ICT infrastructure and procurement.

The first six months

4.2 Much of the work stated in the Strategy was under way before its launch in March 2011. The Strategy has helped, however, to refocus efforts particularly on creating a common ICT infrastructure.

4.3 Of the 17 actions in the Strategy due by September 2011, seven have been delivered on time (**Figure 5**). Work on most of the other actions is under way with a small number behind schedule at this stage.

Figure 5
Status of actions due by September 2011



Source: National Audit Office analysis

12 HM Government, *Government ICT Capability Strategy*, 28 October 2011.

Challenges

The Government ICT Capability Strategy

4.4 The Committee of Public Accounts had concerns that the Cabinet Office did not know the number of ICT people in government or what capacity and skills it will need in the future. In 2011 the NAO reported:

- forty per cent of senior staff from across government identified 'very' or 'fairly' significant gaps in ICT skills in their organisations;[13] and
- chief information officers had gaps in ICT capacity and capability which would significantly affect ICT infrastructure in their departments. These gaps included contract and supplier skills management; stakeholder management; and programme and project management.[14]

4.5 The Government is intent on improving ICT skills in government and the Government CIO is head of the Government ICT profession. He chairs an ICT Profession Board comprising ICT and learning and development specialists from across the public sector and industry. This team produced the *Government ICT Capability Strategy* (the Capability Strategy), published on 28 October 2011.

4.6 The key component of the Capability Strategy is a framework for career development in the ICT profession. Civil servants who consider themselves ICT professionals will use the framework to identify the skills, experience and learning and development they need to progress in their careers. The initiatives will therefore produce outcomes, such as reducing reliance on contractors and external recruitment, in the medium to long term.

4.7 We are concerned that the important technical skills, including cloud computing and 'agile' delivery methods, which are needed in the short term in departments and agencies to implement the new ICT solutions, are not available. Government also lacks key business skills. Although it has outsourced ICT systems development and services for many years, our reports have often stated that government is not good at managing commercial relationships and contracts or procurement.[15] Indeed, suppliers told us that they doubted whether government had the appropriate skills to move from using one major supplier to deliver ICT solutions and services, to managing many suppliers of different sizes providing different services.

13 Comptroller and Auditor General, *Identifying and meeting central government's skills requirements,* Session 2010-12, HC 1276, National Audit Office, 13 July 2011.
14 Comptroller and Auditor General, *A snapshot of the Government's ICT profession in 2011*, 25 October 2011.
15 Comptroller and Auditor General, *Commercial skills for complex government projects*, Session 2008-09, HC 962, National Audit Office, 6 November 2009, Comptroller and Auditor General, *Central government's management of service contracts*, Session 2008-09, HC 65, National Audit Office, 19 December 2008.

4.8 The Committee recommended that the Cabinet Office should establish the size and capabilities of the existing government ICT workforce and build a model to help predict future demand. The Australian government has a whole of government ICT Strategic workforce plan, which quantifies the number of professionals to be recruited in the three-year period to 2011-12.[16] Our review of the Capability Strategy shows that the Cabinet Office's plan to identify the right shape and scale of ICT profession for departments' future in-house ICT services falls short of producing an overall workforce model of this type.

Common ICT infrastructure

4.9 One of the principal aims of the Strategy is to deliver common ICT infrastructure, including communication networks, business applications bought through cloud computing, data centres, desktops and mobile devices. The common ICT infrastructure is the only technical delivery area where the Cabinet Office has forecast cost savings (Figure 4). Demand will be largely governed by when contracts for existing ICT services end or reach a break point. The two biggest uncertainties for the Cabinet Office when estimating the scale of benefits are market pricing and timing of the adoption of common ICT infrastructure.

4.10 The Cabinet Office intends to use a competitive market to drive down costs of common ICT infrastructure. Departments will buy components of ICT infrastructure from a range of different suppliers, rather than signing a small number of long-term contracts. To make sure that components from different suppliers can communicate and share data, the Cabinet Office is agreeing a set of open technical standards to which the components will all conform.

4.11 The Public Services Network (a secure communications network for government) is the most advanced project and has funding and a resource plan. This project started in June 2008 and is relatively low risk as government and its suppliers have a good understanding of the requirements. The project team, through the Government Procurement Service, is planning to award contracts to Public Services Network suppliers in March 2012. Kent Public Services Network Partnership (public sector organisations such as local authorities, schools and Fire and Rescue Services) and Hampshire County Council have piloted the service and reported reduced network costs. For example, Kent Public Services Network Partnership reported that it had achieved ten times the network capacity than before, for the same cost.

16 Australian Government, *Whole-of-government ICT strategic workforce plan 2010-2013*, April 2010.

4.12 Government started work on Cloud Computing and the Application Store in October 2009. This delivery project lacks funding, an agreed business plan and dedicated resources at this stage. This is a more innovative area of work and government has less experience of how to standardise its requirements and procure services through the Internet. Some central and local government organisations have, however, started to buy applications through cloud computing. In the United States of America every federal government agency has had to select three services to move to cloud computing and close down the old systems. Research analysts, Gartner, predict that restructuring services in this way will usually not lead to any savings until the second year.[17]

4.13 The cross-government project on data centre consolidation started in October 2009, but it is moving slowly and there is no robust business case yet in place. The Cabinet Office conducted a survey of data centres in July 2010. Some of the larger departments said that they have already started consolidating their data centres. In the United States of America, incomplete information on their data centre inventory led to inadequate plans to implement their data centre consolidation programme, and expected savings from the programme were not realised.[18]

4.14 The strategy for developing common desktops for government (*Government End User Device Strategy*[19]) started after the main Strategy was published. The Treasury has not approved any funding for the project as yet but the team will:

- define standards for desktops and devices so that departments can properly compare costs;
- establish a marketplace of suppliers able to deliver products to the defined standards; and
- allow departments to run more effective competitions between suppliers for devices.

4.15 The Committee of Public Accounts recommended that the Cabinet Office should clarify how cyber security would be integrated into the Strategy. We found project teams are using the technical expertise from the Office of Cyber Security and Information Assurance in the Cabinet Office. There is also a specific project to develop risk management aimed at countering cyber threats. We were told that this new risk management system will be piloted by the Public Services Network project, followed by trials in other parts of the common infrastructure. The Cabinet Office has now also published a new cyber security strategy.[20]

17 Gartner, *Where to focus first with the US CIO's 25-Point Plan*, April 2011.
18 United States Government Accountability Office, *Data Center Consolidation: Agencies need to complete inventories and plans to achieve expected saving*, GAO-11-565, July 2011.
19 HM Government, *Government End User Device Strategy,* 28 October 2011.
20 Cabinet Office, *The UK Cyber Security Strategy: Protecting and promoting the UK in a digital world,* 25 November 2011.

Procurement

4.16 Senior managers in government and ICT suppliers said that procurement reform is critical if the full benefits of the Strategy are to be achieved. In particular, government ICT procurement needs to move from running competitions to outsource large ICT services to one that supports a more mixed market of suppliers.

4.17 Government Procurement is developing a new quicker and less bureaucratic process for sourcing suppliers, likely to be available in January 2012. However, ICT professionals and suppliers of ICT and legal services told us the success of the Strategy will depend on new commercial models, simpler contract terms and conditions, culture change and different approaches to risk. For example:

- Current procurement approaches are not suitable for procuring 'agile' delivery projects.
- Procurement officials will need to understand the technology, such as open source, or services they are purchasing to mitigate the risk that they focus purely on cost.
- Risk requirements will change with the move to government integrating ICT systems and services together, rather than relying on a single supplier. The BBC's digital media initiative is a good example of this in practice, where it manages 47 separate suppliers.[21]

4.18 Government wants to open up the ICT market to small- and medium-sized enterprises (SMEs). The Committee of Public Accounts recommended that the Cabinet Office should set out how it would involve SMEs more, and how it would measure success.

4.19 SMEs suggested to us that early knowledge of upcoming government tenders and opportunities to form partnerships with potential bidders would increase their chances of bidding for government business. In February 2011, the Contracts Finder database was launched, and the online pages about government tenders and contracts received over one million hits in the first three months.

4.20 Although it is early, the Cabinet Office is making progress in involving SMEs across all areas of government procurement, not just in the ICT sector. It has established a baseline of current procurement spending with SMEs (6.5 per cent of total government spend)[22] against which it can measure progress. Its overall aspiration is for the amount of work awarded to SMEs to increase to 25 per cent. Government has started talking directly to SMEs and in August the Crown Representative (paragraph 3.6) held an event for SMEs to present their services to senior government commercial and procurement staff in the Department for Education.

21 Report by the Comptroller and Auditor General presented to the BBC Trust's Finance and Compliance Committee, *The BBC's management of its Digital Media Initiative,* 13 January 2011.

22 Direct spend based on 2009-10 data. Cabinet Office, *Making Government business more accessible to SMEs,* July 2011.

Managing risks

4.21 In this section, we have highlighted progress in three critical areas. The Cabinet Office recognises that the work in the delivery areas cannot be treated in isolation. The senior responsible owners have started to map interdependencies between all their projects. When the Board has access to all dependency and interdependency information, it will be able to prioritise and mitigate risks better.

4.22 At a more detailed level, the Plan lists the top risks in each delivery area. We found that senior responsible owners had recognised the risk of behavioural change not occurring. They plan to mitigate this through wider engagement with government and ICT suppliers.

Appendix One

Methods

The main elements of our fieldwork, which took place between July and September 2011, were:

Selected method	Purpose
1 Interviews with the Chief Information Officer Delivery Board (the Board)	
We interviewed key staff responsible for the implementation of the Strategy including those in the Cabinet Office and the six lead departments.	To understand the progress made in delivering the Strategy and the relationships between the Board and central government organisations.
2 Interviews with stakeholders	
We took views from a selection of Chief Information Officers (CIOs) from departments and agencies, and senior officers to whom they report. These government organisations were chosen because they rely heavily on ICT systems to meet their business objectives.	To understand the impact of the Strategy on key stakeholders and the nature of their engagement with those responsible for delivery.
3 Focus groups	
We held focus groups with 30 supplier representatives from the ICT industry.	To understand the impact of the Strategy on suppliers and their responses to it.
4 International comparators	
We interviewed staff from the Supreme Audit Institutions and offices of the Government CIO (or equivalent) in the United States of America, Denmark and the Netherlands.	To understand the similarities and differences between the Cabinet Office Strategy and those of other countries.
5 Document review	
We conducted a review of public and central government data about the governance of, and implementing, the Strategy.	To triangulate and support the findings identified in the focus groups and through our series of interviews.

A more detailed methods appendix appears on our website at www.nao.gov.uk/ict-strategy-2011

Appendix Two

Summary of other government ICT strategies

Summary of other government ICT strategies

	UK	United States of America	Australia	Netherlands	Denmark
Government ICT Strategy					
Date published	March 2011	December 2010	April 2011[1]	November 2011[2]	August 2011
Time period	2 years	18 months	5 years	4 years	5 years
Scope	Central government	Central government[3]	Central government[3]	Central government[3]	Whole of government
Implementation					
Central ICT policy	✔	✔	✔	✔	✔
Devolved delivery	✔	✔	✔	✔	✔
Cross-government CIO	✔	✔	✔	✔	✗
Type of business change					
Reducing waste and project failure	✔			✔	
Common ICT infrastructure	✔	✔		✔	
Using ICT to enable and deliver change	✔		✔		✔

Summary of other government ICT strategies *continued*

	UK	United States of America	Australia	Netherlands	Denmark
Delivery Areas					
1 ICT asset and services register	✔			✔	✔
2 Open Source	✔	✔	✔		✔
3 Procurement	✔	✔	✔	✔	✔
4 Agile delivery methods	✔	✔			
5 Capability	✔	✔	✔	✔	✔
6 Open data standards	✔		✔		✔
7 Data centre consolidation	✔	✔	✔	✔	
8 Public Services Network	✔				
9 Desktop and devices	✔			✔	
10 Cloud computing	✔	✔	✔	✔	✔
11 Reference architecture	✔			✔	✔
12 Open technical standards	✔				✔
13 Information Strategy	✔	✔	✔	✔	✔
14 Greening ICT	✔	✔			
15 Cyber security risk management	✔	✔		✔	
16 Channel Shift	✔	✔	✔		✔
17 Application Programming Interfaces	✔				
18 Online government consultations	✔		✔		
19 Internet and social media	✔		✔		

NOTES

1 This was a draft version for consultation.

2 We received a briefing on the draft.

3 The strategies cover national government and therefore equate to our own central government structure.

Source: The ICT Strategies of USA, Australia, Netherlands and Denmark and National Audit Office fieldwork interviews

Appendix Three

The Committee of Public Accounts' conclusions and recommendations on *Information and Communications Technology in government*

1 We welcome the direction and principles of the Government's new strategy for ICT (the Strategy), but it is very ambitious and short on detail about how it will be delivered. There is a long way to go before government can say it is living up to its claim that there is "no such thing as an IT project". This can only be achieved when ICT is embedded in departments' business and government reform programmes have ICT at the core – key objectives of the new Strategy.

2 The Strategy lacks a baseline or metrics to measure progress. Simply listing actions to be achieved within two years is not sufficient. The Strategy implementation plan, due to be published in August 2011, should include a small number of measurable business outcomes, or direct indicators, to enable government and this Committee to evaluate success and whether the Strategy is delivering value for money.

3 The Strategy cannot be delivered by the Cabinet Office alone – its successful implementation relies on its new principles being adopted across the Government ICT and supplier communities, Chief Information Officers and by policymakers in the wider civil service. The Strategy envisages a small but powerful capability in the Cabinet Office's Efficiency and Reform Group (ERG), which can control and intervene in departments' projects. To be effective and successfully deliver its strategy for ICT and major projects, ERG should use its new powers selectively and be able to demonstrate that it has achieved buy-in from departments and suppliers.

4 ICT-enabled projects have been too big, too long and too ambitious and we welcome the move to shorter, more iterative projects. ERG is introducing 'starting gate reviews' for new ICT projects to test whether projects are small enough and deliverable. It should publish its 'starting gate reviews' and other significant reviews carried out over the life of the project.

5 Value for money in ICT procurement relies on a mixed market of suppliers. The Strategy includes an aspiration to open up the government ICT market to small- and medium-sized enterprises (SMEs). ERG now needs to set out what the Government will do to encourage more involvement by SMEs, and how it will measure success.

6 The Government plans to move more public services online and, rightly, to stress the importance of designing services around the needs of the user. However, approximately nine million people have never used the Internet, and they must not be excluded. ERG and other relevant departments should withhold sign-off of additional online services until they are satisfied that the service is designed for users. ERG should also continue to ensure that online services are accessible through libraries, post offices or other alternative means. When new services are launched, these alternatives should be well publicised.

7 The Strategy only makes one reference to cyber-security. This is particularly concerning given the move to more government services online. The Government has committed to increase the use of new technologies and sharing of information, which rely on the Internet. ERG should clarify in its implementation plan how cyber-security will be integrated into its strategy for ICT.

8 Government has not yet assessed the number of ICT people it has or the capacity and skills it will need in the future. In preparing its Capability Strategy for ICT, ERG should establish the size and capability of the existing government ICT workforce, including the number of cyber-security professionals, and build a model to help predict future demand.

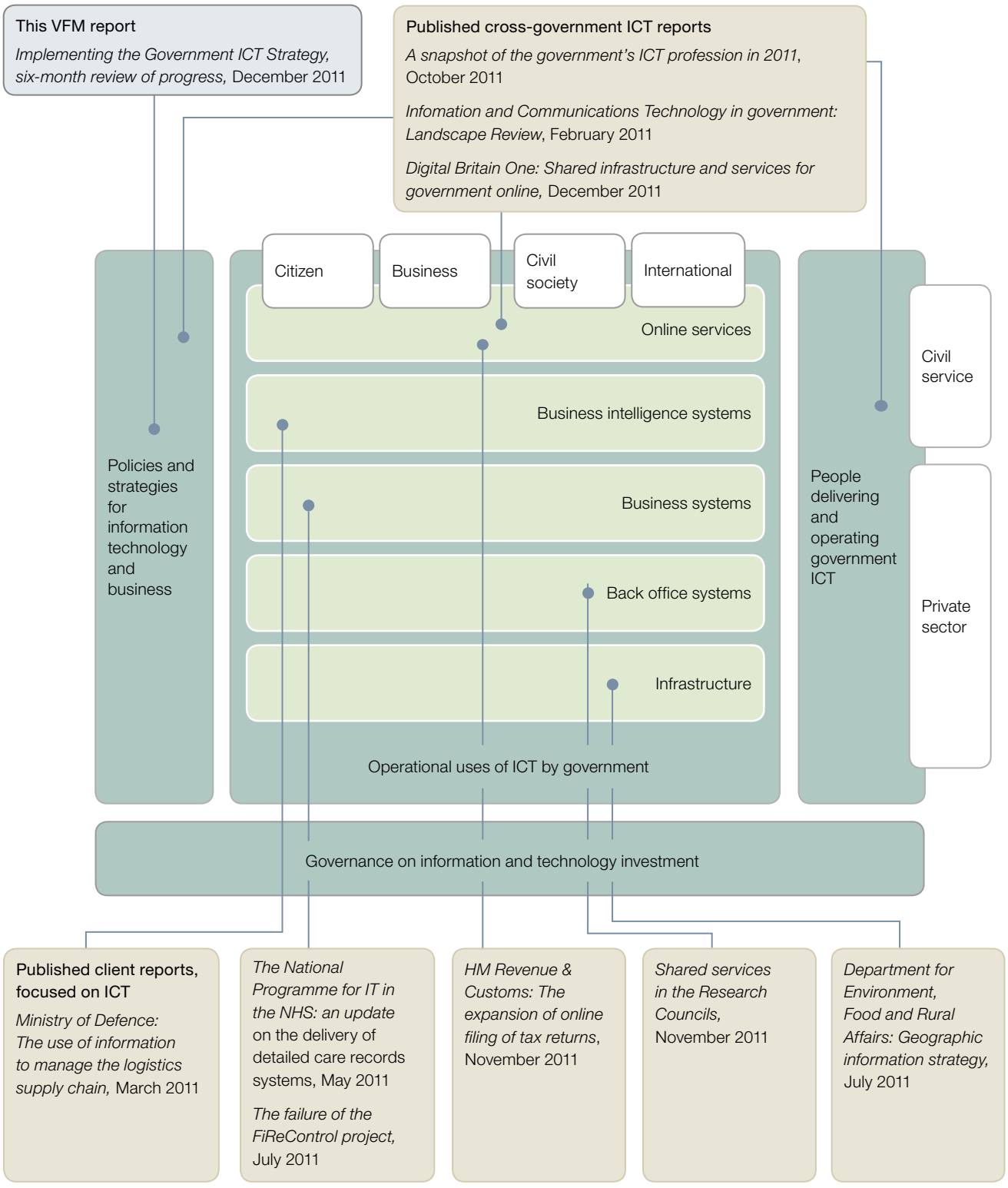
9 There are no proposals in the Strategy to address the longstanding problems of high turnover of Senior Responsible Owners (SROs), their lack of experience and their lack of accountability. While the Committee recognises that shorter, more manageably-sized projects will help, the ERG should make proposals to keep SROs in post for longer where possible, and raise and maintain their level of skills, in line with the Government's advice on accountability. The identity of SROs should be available on departmental websites, along with their dates of appointment.

Committee of Public Accounts, *Information and Communications Technology in government*, Fortieth Report of Session 2010–12, 5 July 2011.

Appendix Four

National Audit Office publications focusing on the key components of government ICT

The diagram opposite shows how this report fits with our other publications that explore performance across government, as well as tackling effectiveness within specific departments.



NOTE

1 Diagram showing the key components taken from Comptroller and Auditor General, *Cross-government, Information and Communications Technology in government: Landscape Review*, Session 2010-11, HC 757, February 2011.

Source: National Audit Office

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