Modernising government

e-government

A strategic framework for public services in the Information Age

CABINET OFFICE

e-government

A STRATEGIC FRAMEWORK FOR
PUBLIC SERVICES IN THE INFORMATION AGE

APRIL 2000

Foreword by Rt Hon Ian McCartney MP, Minister of State, Cabinet Office

New technology offers unprecedented opportunities for modernisation throughout our society. We are at the start of an information revolution which is changing the way companies do business and the way citizens get many of the services and goods they need. This Government wants the UK to be at the forefront of development in the new global economy. We must establish the best environment in the world for electronic commerce in which new technology industries can thrive. Success in this emerging knowledge economy will be vital for our future prosperity.

We must ensure that everyone in our society is able to benefit from the new technologies and the new economy. We are developing radical policies to bridge the digital divide. We have set a target that by 2005, all citizens should have access to the Internet, either in their own homes or through community access points. We are setting up Information and Communications Technology learning centres in partnership with the commercial sector, and we are investing in schools and in lifelong learning to ensure that skills in using the new technology are available to all.

Information Technology is a powerful enabler but the starting point should always be to identify what the customer wants and then look to how we use IT to achieve this. The public sector must embrace new ways of thinking, new ways of doing business, new alliances and new technology. This is vital in order to give people the services they want, when they want them and with the minimum cost and bureaucracy. Electronic access to government services will become increasingly important to citizens and by 2005 we plan to have all of our services available in this way.

This **e-government** strategy is a fundamental element in our Modernising Government programme. It identifies a common framework and direction for change across the public sector. It establishes a leading role for the e-Envoy as owner of the programme and a structure for collaboration between the many organisations on which its success will depend. The strategy identifies how we will develop the skills which public servants need to realise in full these new opportunities.

Contents

Executive summary

Information Age Government

1. The Information Age revolution has already brought huge changes to both manufacturing and service industries all over the world. It has driven down costs, brought suppliers closer to customers, and made them more responsive to their needs. The Government has launched initiatives to make the United Kingdom a world leader in e-commerce and to make access available to all. This third initiative, **e-government**, will ensure that government itself will play a full part in this radical transformation of our society. Complementary initiatives for Scotland, Wales and Northern Ireland will extend coverage throughout the UK.

2. **e-government** fulfils the commitment in the *Modernising Government* White Paper to publish a strategy for Information Age Government. It focuses on better services for citizens and businesses and more effective use of the Government's information resources. Implementing it will create an environment for the transformation of government activities by the application of e-business methods throughout the public sector. The strategy challenges all public sector organisations to innovate, and it challenges the centre of government to provide the common infrastructure which is needed to achieve these goals.

3. **e-government** has four guiding principles
   • building services around citizens' choices
   • making government and its services more accessible
   • social inclusion
   • using information better.

Citizen-focused government

4. When people interact with government they want to do so on their own terms. They want high quality services which are accessible, convenient and secure. People should not need to understand how government is organised, or to know which department or agency does what, or whether a function is exercised by central or local government. We need a strategy that will provide this - by helping departments and agencies, central and local government, co-operate in new partnerships that will offer their services in ways that make sense to the customer. We need to form partnerships with innovators in the private sector who can find new ways of meeting changing patterns of demand.

Accessible services

5. The Government intends that all services which can be electronically delivered should be. The strategy proposes that they should be accessible over the Internet and through mobile phones, digital TV, and call centres as well as through personal computers. The mix for any service will be determined in relation to demand. Electronic service delivery does not do away with the need for personal contact and this must be better supported. Services should be tailored to individuals' needs. The Government will develop a business portal, initially for small- and medium- sized enterprises, and a personalised 'home page' for individuals. It will do so in a non-exclusive way and will create the conditions for others, including commercial enterprises, to create innovative service offerings.

6. New ways of doing business will change the relationship between individuals and government. Access to information will be firmly established under the Freedom of Information legislation and government organisations will be more responsive to citizens' views. At the same time, it will be vital to make sure that people can trust the systems we use, by ensuring that their personal data is protected and that systems are secure.

Inclusiveness

7. New services must be developed so that they are available to all and easy to use. Digital TV and mobile phones will become increasingly important as a means of accessing the Internet. The Government is committed to making it easier for all people to get access, whether individually or through community facilities. The telephone will remain a preferred means of contact for many. Call centres must be improved by giving their staff access to information networks that will enable them to provide better service. Better information systems will support the work of those who have face to face contact with the public.

8. Online public services must be well designed and accessible to all. This includes providing services for minority language groups and those with disability or limited mobility.

9. **e-government** is an opportunity to enhance the services which are provided to UK citizens overseas, EU citizens and others overseas who wish to do business with or visit the UK. This is likely to be a stimulus to provide further multilingual services.

Managing information

10. The Government's knowledge and information are valuable resources. At the heart of this programme is the need for the public sector to make the best use of them. Implementing the strategy requires organisations to adopt coherent and compatible

information policies in support of better policy making, better service delivery and more efficient working.

Managing change

11. This strategy encourages innovators in government to identify new ways of working in partnership with the private sector. It identifies the need for a strong lead and effective support from the centre.

12. The **e-Envoy**, supported by the Information Age Government Champions, will
   - own the strategy
   - articulate a detailed change programme
   - lead its implementation
   - support the Chief Secretary of the Treasury and the e-Minister in a cross-cutting review in the 2000 spending review on the knowledge economy, which will consider the funding of electronic government
   - identify new opportunities for cross-cutting initiatives
   - report regularly on progress to Ministers.

13. The **Central IT Unit (CITU)** in the Cabinet Office, in collaboration with counterparts in the devolved administrations and lead agencies, will
   - support citizen-focused service integration
   - lead implementation of framework policies, standards and guidelines
   - promote shared infrastructure and applications
   - establish a government portal
   - promote common policies on the management of information.

14. **Public sector organisations** [1] will
   - establish new ways of doing business
   - implement common standards and framework policies
   - develop e-business strategies
   - provide services which are accessible via the government and other portals.

15. Taking the strategy forward will need commitment and investment across the public sector and openness to innovative ideas. The next year's milestones include
   - May 2000: completion of the CITU study of major IT projects
   - July 2000: publication of the outcome of the 2000 spending review
   - July 2000: publication of the Performance and Innovation Unit report on new ideas and approaches to government electronic service delivery
   - October 2000: submission of initial e-business strategies to the e-Envoy
   - December 2000: the e-Envoy's first report to Ministers on the progress of the strategy.

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[1] *For further advice on implementing the strategy in local authorities see* Implementing e-government – guidelines for local government.

1 Context and scope

Introduction

1. The *Modernising Government* White Paper makes a commitment to publish an IT strategy for government which would focus on the needs of citizens and business.

2. This document, **e-government**, is not a conventional IT strategy which proposes technical solutions to a set of business needs. The business of government is too varied and complex, and the range of its dealings and contacts too great for that to be a sensible approach. Instead, **e-government** sets a strategic direction for the way the public sector will transform itself by implementing business models which exploit the possibilities of new technology. It is informed by changes in the wider economy and in leading developments in the public sector in the UK and overseas. It identifies the respective roles of public sector bodies and the centre in achieving this.

3. **e-government** provides a framework for planning and action across the public sector. (as defined in paragraph 18 below).

4. A central element of the strategy is the use of e-business methods (using Internet technologies to exploit information for better management of relationships with customers, suppliers and partners) as a means of meeting the Government's targets for electronic service delivery, electronic procurement and e-commerce.

5. The benefits of new technology are seen in the commercial sector in the development of new delivery channels for services to citizens and businesses, typically using the Internet. But service delivery is only one aspect of the strategy. e-business methods are relevant to a much wider range of government activity encompassing transactions with citizens, businesses, suppliers and with other public sector bodies (see Table 1).

6. The relevance of these processes will vary greatly from one part of the public sector to another, but many of the business and technology issues which underpin them will be common. Examples are the establishment of identity and authentication, the provision of secure network connections, safeguarding personal data, facilitation of data exchange and the creation of portals to integrate service delivery.

Table 1 e-business benefits

Public sector transaction with	Examples	Benefits
Citizens	Information Culture Health Education Benefits transactions Taxation	Wider choice of channels, convenience, lower transaction costs, more personal service, greater awareness of services and policies, greater democratic participation and openness
Business	Support programmes Advice and guidance Regulation Taxation	Quicker, faster interactions, reducing transaction costs and the regulatory burden
Suppliers	e-procurement	Reduced transaction costs, better inventory management, shared data environments
Other public sector bodies	Communication between departments and agencies and between central and local government Policy making	Greater accuracy and efficiency, reduced transaction costs. Better use of the knowledge base. More nimble, flexible working arrangements

7. Making this happen will be a major task. There are serious issues of business process change, skills shortages and the existing information infrastructure to confront. The public sector will need to work closely with private sector partners in developing business models, establishing infrastructure and in delivering services to end users. We must learn and apply the lessons which will emerge from CITU's study of major IT projects.

8. Crucially, public servants must have the opportunity to develop the skills and culture which will be necessary to work in new, often challenging, ways. There must be a clear lead from the top level of organisations. Partnership with staff and their trade unions is vital in taking this work forward. This is true not just for those with specific roles in relation to the development and technical implementation of e-businesses, but for all public servants.

9. Achieving these goals will require significant investment (although there is scope overall for both savings and quality improvements). The funding of this programme across the public sector is a key issue in the 2000 spending round and beyond.

10. Achievement of the vision will deliver benefits for citizens, businesses, government and suppliers. It should also enable efficiency savings to be realised. It will be important to measure the achievement of these benefits. In the case of services for citizens, this will be a role for the People's Panel.

What the Government has achieved so far

Government has not stood still in response to this revolution. Public sector organisations have used earlier generations of technology to automate very high volume transactions including tax dealings with business and to automate internal processes. New services are being introduced. Personal tax dealings will be available on the Internet later in 2000. Projects underway in the Office of National Statistics and Public Record Office will create statistical, civil registration and archiving systems for the Information Age. The Ministry of Defence is planning to launch the Defence e-commerce Service (DECS) in support of better procurement and stock control in the defence sector. NHS Direct On-line shows how citizens can be provided with information to supplement an existing channel. Initiatives are in place for on-line job matching and a more integrated approach to benefits claims. Local authorities have developed electronic one-stop shops to bring together information and services. The Foreign and Commonwealth Office has made travel advice available on the Internet and Companies House sells companies information using e-commerce technology. Within government, the Government Secure Intranet (GSI) connects all major departments and can provide central government users with e-mail and Internet access.

Public sector bodies have begun the work of managing government's information more effectively. HMSO is creating the Information Asset Register, a database listing the government's information resources which will be accessible via www.inforoute.hmso.gov.uk. The National Land Information Service (NLIS) project is creating a land information system which will be a key enabler for transactions involving property, notably electronic conveyancing.

Benefits for citizens

11. Developments in technology and the rapid fall in the price of communications and computing have transformed many people's lives. New services have been established, and existing ones are provided in new ways. At their best, these services deliver the benefits of
   • better access, with services available where and when there is a demand
   • delivery through a range of media, over the counter, via call centre and online

- segmentation of the market, with services tailored to suit the needs of groups within the market
- responsiveness to feedback about the content and quality of services
- grouping of services around life episodes or common events
- comprehensive analysis of data about patterns of usage
- involvement of users in service redesign and improvement.

12. People are aware of the possibility and benefits of excellent service, and they expect it in all their dealings with business. They are less tolerant of poor service in one sector when they have experienced good service in another. The challenge for the public sector is that the same growing expectations will be applied to government services. The public sector must innovate and invest in new business models to meet this demand. The possibility of more accessible government services should mean that they become more convenient, easier and cheaper to use. Personalisation of services should make it possible to be more inclusive in providing services in more languages and in ways which are accessible to those who have a disability or are less mobile.

13. In both the public and private sectors, the increased ability to use data about individuals to improve knowledge of customers and improve services is quite properly accompanied by concerns for the security, privacy and confidentiality of personal information. Establishing and maintaining trust is vital for online businesses. It is at least as important for the public sector. At the same time, new technology offers the possibility of making access to information about government easier and for commitments on freedom of information to be met. The digital age also offers the possibility of a better informed and more participative democracy through electronic consultation and better responses to feedback.

14. The transformation of the way government and citizens interact must be an occasion for increasing social inclusion. It will be an opportunity to address disadvantage which arises from geographical location, to improve communications and employment opportunities. The Government is committed to reducing the digital divide, through the policies developed by the Social Exclusion Unit; through IT learning centres; and in its commitment to improving IT skills and access through the National Grid for Learning, the National Learning Network, learndirect and the Library Network. There are many local programmes in support of these aims too. But spanning the digital divide means more than skills and access, and it has to be accepted that some citizens will not want or will not be able to be direct users of new technologies. That does not mean that this strategy has nothing to offer them. New technology can support better face to face and telephone transactions as well as direct interaction online. A challenge for the public sector will be how to free up staff from internal processes in order to offer more effective interactions, and how to provide front line staff with the skills, information and equipment they need to act as intermediaries in this new environment.

Benefits for businesses

15. New technology has transformed the way businesses can operate. The Government's commitment to ensure that the UK becomes the best place in the world to do business online is set out in its response to the report of the Performance and Innovation Unit, e-commerce@its.best.uk. One of the key ways in which businesses have applied e-commerce techniques is in managing their relationships with customers and suppliers. Public sector bodies must do the same if they are to derive the same benefits in terms of reduced costs and better procurement. The effect of the public sector as a whole doing this will itself be a significant contribution to advancing e-commerce. The Office of Government Commerce will lead on the adoption of e-procurement within government.

16. The public sector does not only interact with businesses as a customer and supplier. It is responsible for a wide range of regulatory and support functions. The Government is committed to reducing the impact of regulation on businesses. Businesses will rightly expect the public sector to make the processes involved in company startup, business expansion, continuing regulation and compliance and the closing of a business easier and more accessible.

Benefits for the public sector

17. New working methods offer potential benefits for the internal business of government too. These include gains in efficiency and effectiveness from better use and management of information, whether in support of policy making or the administration of programmes. Intranet technologies offer the possibility of establishing knowledge bases and cross-departmental working. Extranet connections between organisations, for example between departments, the Non-Departmental Public Bodies (NDPBs) which they sponsor and deliverers of services to users, will enable business to be carried out more quickly and cheaply.

Scope

18. This strategic framework is for agreed application across the whole of the public sector in England, including
- central government departments and their agencies
- local government
- the NHS
- NDPBs (including the newly established Regional Development Agencies for England) and the front-line organisations which they support
- in Scotland, Wales and Northern Ireland, the devolved administrations are responsible for delivering devolved functions and for the preparation of appropriate IT strategies. They have worked closely with the UK Government on the preparation of this strategy and the objective is that it should, as far as possible, be capable of adoption as a common strategy.

2   The vision

Introduction

1. The Prime Minister's vision is of modernised, efficient government, alive to the latest developments in e-business, and meeting the needs of citizens and businesses. There is no one blueprint for achieving it. But it is possible to envisage, on the basis of what we know will be feasible, how the public sector might be transformed by the end of the process. The challenge of the strategy is for public sector organisations to adopt ambitious, far-reaching plans to deliver the vision, for the centre to provide standards and common infrastructure, and for both to do so in a way which is flexible and able to adapt to changing demands and possibilities.

Doing business with government in the Information Age

2. In the *Modernising Government* White Paper, the government set a target that by 2008 all services (with exclusions for policy or operational reasons) should be available electronically. The Prime Minister announced in March 2000 that this date should be advanced to 2005.

3. In 2005, when the 100% target has been achieved, all key government services will be accessible electronically. Of course public services will still be delivered by teachers, social workers, doctors and nurses, fire-fighters, police and other front-line staff, but much of the organisation of services and initial public contact can be handled electronically. So processes which currently depend largely on the exchange of physical documents or attendance at a specific place will be very widely augmented and in many cases replaced by the application of new technology. The core processes which typify government interactions with citizens and businesses – giving and receiving money, giving and receiving information, regulation and procurement – will be able to be done electronically.

4. For the citizen or business, this will mean that government services, like those of the financial, retail and other sectors, will be available through a wide variety of media. The Internet will be central, whether accessed through a PC, digital TV, Wireless Application Protocol (WAP) phone or other device, or whether mediated by a call centre operator or a face to face contact. Services will be available from more locations and at times which suit users.

5. As well as a range of media, the services will also be available through many delivery channels. Some of these will continue to be one to one interactions between citizens and

public sector bodies for specific services. But there will also be a drive towards better integration of services. In some cases this may mean building on the one-stop shop models which have been developed by local authorities, but with a wider range of services from a bigger range of providers. Central and local services will increasingly be delivered through common channels.

6. Portal services will be developed on the Internet. The government portal will offer a point of entry for citizens to all relevant services from central and local government. It will handle authentication and privacy. It will be capable of personalisation, so that citizens can use the portal to match their own circumstances and interests. It will facilitate push technology so that, at the citizen's choice, it can send reminders about services or information by e-mail. Government online resources will be well indexed and easy to find.

7. There will be sectoral and local portals too. Examples will include an education portal, services for business accessible through a business portal, and information about cultural and heritage issues through a cultural site. An increasing amount of information about legal services will be accessible through the Community Legal Service and about health from NHS Direct Online and the National Electronic Library for Health. It is not assumed that these public sector portals will be monopolistic. It should also be possible in many cases for government services to be accessed via private sector sites.

8. The creation of these services will require new business arrangements within the public sector. Launching joined up services will call for innovation which may not be within the scope of any single agency. The e-Envoy, supported by CITU, will have a role in identifying candidates for joined up services. Bringing together information from disparate sources to create new joined up services will require the adoption of common protocols for data exchange. In some cases, work to achieve back office integration will be a major commitment.

9. These changes are not just a matter for new technical infrastructure. They will need the creation of e-businesses throughout the public sector, creating, managing and marketing their services, possibly in competition with established business units. In suitable cases the same service might be available via a range of channel providers, many in the private sector, operating within a regulatory framework.

10. These e-businesses will be able to offer choice of access and employ techniques of market segmentation and customer relationship management. With citizens' consent, they will be able to use data to inform the development of their services and build mechanisms for continuous improvement and better quality services.

11. The convenience of dealing with government will be greatly enhanced by the implementation of common policies on key building blocks for **e- government**. These are described in Chapter 3. There will be standards for authentication, security and privacy to

which all services will over time be required to subscribe. There will be a common format for smart cards which will be able to carry identifiers to enable online identification.

12. **e-government** will have a sound legal basis. The Electronic Communications Bill aims to establish the acceptability of electronic signatures as evidence in court and provide the means to modify legislation that restricts government business to pen and paper. Government departments are identifying areas where they can remove legal barriers to electronic service.

13. In this new environment, public sector organisations will be able to make information available online in order to meet their responsibilities under the Freedom of Information legislation. There will be much more information about the political process itself, so that those who wish can be better informed about proposals for legislation or about democratic scrutiny. Consultation processes, complaints procedures and Ministerial correspondence will be handled using new technology, enabling the public sector to respond more quickly.

14. Skills and knowledge in the use and management of information will be required across the public sector, including understanding the role of new technology in policy making and service delivery and end user IT skills to handle information and deliver electronic services.

15. This is an ambitious agenda and it will not be achieved without considerable effort, investment and cultural change. It will be approached in steps, testing the technology, business models and consumer responses along the way. By 2002, many of the building blocks will be in place, on the basis of present programmes. A number of government services and a large amount of government information will be available online. The government portal will have been established as a means of accessing those online services and resources, including an electronic change of address service. An increasing number of local authorities will also offer a wide range of services on-line. Online information will be easier to retrieve with the adoption of a common policy on metadata and searching. The framework policies on web sites, smart cards, authentication, security and call centres will have been widely adopted. Government Secure Intranet (GSI) connectivity will have been extended via extranet connections to local authorities and others and common services and applications on the GSI will support more effective working in and between public sector bodies.

3 Strategic building blocks

Introduction

1. The strategy promotes innovation for new services. The centre will identify and promote common building blocks for e-businesses. There is no monolithic model for the development of e-businesses. It will be for departments and agencies, local authorities and NDPBs to develop business plans for their services and their customers. In addition, the e-Envoy will identify and promote cross-cutting initiatives where no clear lead is forthcoming. The sponsorship by the Information Age Government Champions of the services for business project, now led by the Small Business Service with input from several departments, is an example of how this model can be applied.

2. This approach enables
   - innovation by service deliverers
   - joined up delivery of services and better exchange of information between organisations
   - a common experience for citizens and businesses in doing e-business with the public sector
   - reduced costs of developing and maintaining multiple systems
   - effective structures and mechanisms to ensure success.

3. Figure 1 shows an architectural model of how individual departmental and sectoral initiatives relate to the strategic framework and standards.

4. The model has three elements
   - access
   - e-business components
   - interoperability.

5. The strategic approach to each is discussed in turn.
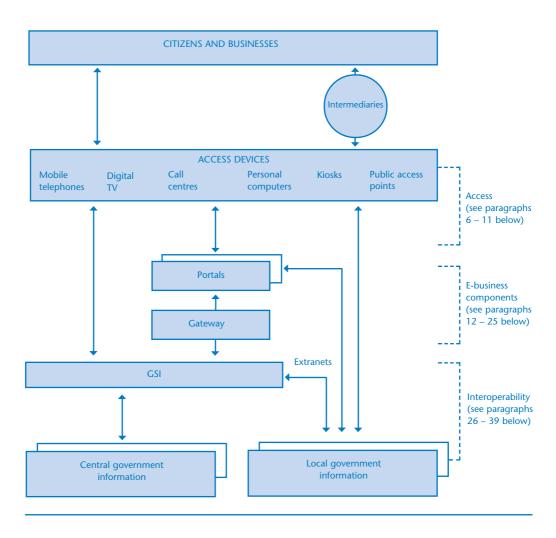
Figure 1 Architectural model

Access

Framework policies for access technologies

6. The strategy envisages that services will be accessed by multiple technologies, including web sites accessible from PCs, kiosks [2], mobile phone and digital TV, and call and contact centres [3]. Intermediaries may use these technologies to provide better face-to-face services. CITU will establish and continually revise framework policies for each major delivery mechanism. Those on web sites, call centres and digital TV have already been published at

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[2] *Kiosks are a means of providing access to electronic services in public places. Initially, kiosks tended to use touch-screen technology. More recently, keyboard input and web-browsing have greatly improved their capability. It is desirable to avoid over-deployment of single-function kiosks. Local authorities, the NHS and central departments should work together to determine how multi-function kiosks can best be deployed.*

[3] *Contact centres combine the handling of e-mail, video and telephone calls*

www.iagchampions.gov.uk/guidelines.htm. In developing services using these technologies for access, public sector bodies should comply with the guidelines. It will be open to the devolved administrations to agree to the adoption of the same technical standards, and of comparable local standards for operations and procedures, in respect of devolved services. The content of the guidelines will be revised as technologies develop, and will correspondingly vary in the extent to which they establish mandated standards. The underlying principle will be to promote collective approaches to the use of these media across the public sector in the interests of accessibility, quality, familiarity and ease of use and establishment of coherent branding. A common theme will be the need to use these media in ways which are inclusive of minority language groups and those with disabilities.

Portal services

7. Many public sector bodies have already begun to develop portal technology as a means of providing access to services and information on the Internet. There are examples in local authorities, and several sectoral portals are planned in central government. Their development will be helped by the use of the e-business components described below, and it is desirable that new portals should use the Government's authentication and privacy standards. It is also desirable that public sector bodies should look positively at opportunities to enable their services to be accessed via commercial portal sites.

8. The Government will establish a transactional portal site for individual citizens and a separate services for business portal. The citizens' portal site will offer citizens a range of services from which they can select those that apply to their own circumstances. Push technology (which is already used on sites such as the Foreign and Commonwealth Office) will enable prompts about changes in services or important dates to be sent. The services which can be accessed through the portal will depend on the underlying progress made by departments and agencies in online service delivery. The portal will be developed to incorporate new online services as they become available.

9. In time, the portal will be capable of customisation to support service delivery by third parties – perhaps at a Post Office or in a local authority, where customer contact staff will use the system with the public. Available in the first instance for use with a web browser on a PC, the portal will be developed to give access via digital TV and mobile telephones.

10. The government portals will provide service developers in departments, local authorities and elsewhere with a consistent and stable set of interfaces against which to develop their systems. Provision of services via these portals will be a visible indication of departments' achievement of the target for electronic service delivery.

11. These portal sites will not be the only public sector sites for service delivery, and their creation will not necessarily preclude the delivery of government services through

commercial portal sites. Departments, local authorities and the devolved administrations will be free to choose to deliver services through their own sites as well. There may also be instances, such as the bulk transfer of data between the tax authorities and large businesses, which continue to be most efficiently handled by electronic data interchange.

e-business components

12. There are structural components which can effectively be provided according to centrally determined standards, thereby saving work for service providers and creating a familiar and trusted experience for users. CITU has published and will maintain framework policies and standards on
- third party service delivery channels
- security of transactions and information
- authentication
- smart cards.

13. CITU is taking forward a programme of work to establish a privacy policy.

Delivery channels

14. Real improvements in convenience and quality can be achieved if public services are opened up to delivery through a variety of channels, including those owned and managed by the commercial and voluntary sectors. Two important characteristics of commercial channels which are applicable to channels for government services are
- *multi-sourcing* – a third party may offer goods or services from several providers
- *packaging* – the third party provider packages services to make them more attractive to the consumer.

15. Given the right commercial and regulatory framework, third parties are likely to want to supply a range of public services and to package these with relevant commercial services. It is essential to ensure that any such new channels live up to the high standards of trust, confidentiality, security and accountability expected of government services. One possible arrangement would be for the contractual relationship between government and its channel partners to take the form of a fixed-term licence.

16. In accord with the principle of choice, it is not envisaged that exclusive licences will be awarded. Each public body should consider the channels it wishes to use to improve access to its services in the most effective way with proper regard for the coherence and integration of service delivery. The decision on choice of channel is a strategic one for the public body because it can affect fundamentally the way that the service is perceived by the public. It may also involve a long-term commitment to the third party organisations chosen to provide the channel.

Security

17. The security framework policy mandates alignment with best e-commerce practice. It applies across the public sector, and extends to all service delivery channels and all bodies which deliver public services. The security policy provides a framework against which service providers will need to assess their services but does not specify implementation detail. Service providers are free to propose implementations within the framework.

Authentication

18. Effective government online and call centre services will require a widely accepted means for citizens and businesses to authenticate themselves. The essential characteristics of such a system of authentication are
   • an ability to inspire public confidence that personal data is properly protected, and to give assurance that the risk of impersonation is minimised
   • simplicity, transparency and economy to the user
   • common systems across government and the wider public sector
   • reduction of fraud and of wasteful duplication of effort.

19. The authentication framework policy and guidelines establish a common approach to authentication for government departments, agencies and the wider public sector. It is for implementation as new online and call centre services are developed.

20. The framework policy establishes four levels of authentication which can be used across the whole of government. The use of these levels of authentication across the public sector will familiarise citizens with the procedures and so develop increasing confidence and trust in them, and therefore aid the widespread use of **e-government** services.

21. The framework policy does not assume the establishment of a single, national system of identification. It looks to the establishment of a range of authentication services by central and local government and the private sector, and for public sector bodies to use these. The framework policy sets out criteria for the management of information by those providing authentication services, including a reminder of the primacy of the data protection principles and the need for effective security.

22. The framework policy is supportive of the proposed T-Scheme [4] for accreditation of trusted service providers which is being developed by the Alliance for Electronic Business in conjunction with the Department of Trade and Industry.

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[4]   *The T-scheme is the proposed co-regulation regime for encryption service provision in the UK. It specifies the standards and procedures which providers of all types of encryption services should follow in order to acquire a mark of approval. CITU will strive to ensure alignment between the provisions of this scheme and the requirements of* Modernising Government.

Smart cards

23. The ability to use a smart card issued by the private sector, or any part of the public sector, to access the broadest possible range of public services will be of benefit to the card issuer, to the card user and to public service providers. The smart card framework policy provides a mandatory set of standards to facilitate interoperability. It provides advice on acquisition issues for public authorities, accessibility as an integral part of any card scheme and data protection issues.

Privacy and data sharing

24. Effective e-businesses need to win the trust of the people who use them, and confidence that systems are secure, that authentication mechanisms are robust and that personal data is properly handled. **e-government** services will be compliant with the Data Protection Act 1998 and the data protection principles which it embodies. Citu will develop a 'privacy framework' advising how online services can meet these requirements

25. New technology offers opportunities for sharing data between departments in support of integrated services. It can also support better measures against fraud and more efficient working. The Government will continue to consider whether further legal provision is needed to provide for data sharing in support of these objectives.

Interoperability

26. CITU is establishing common standards and infrastructure to enable interoperability across government departments and the wider public sector. The policies and standards will also ensure that government organisations can communicate electronically with citizens and businesses. This has been achieved through wide adoption of Internet and World Wide Web technologies for all government information systems.

27. The common policy and standards are set out in the interoperability framework policy.

28. Connectivity to the GSI will provide a basis for interoperability both within central government and, by means of extranet links, to the wider public sector and the Internet. This will require public sector organisations to migrate their systems to support Internet Protocol (IP) standards and interface to the GSI and the Government Gateway. This policy will require public sector bodies to develop networks based on IP communications and IP communications standards throughout their organisations, starting with new systems, and browser enabled desk-top workstations, with e-mail and Web access for most employees. The interoperability framework also requires the adoption by public sector bodies of common standards so that e-mail and electronic documents can be exchanged within the

public sector and with citizens and business.

Government Gateway

29. CITU is developing the Government Gateway as a middleware service that allows many existing information systems to be joined up and accessed from the Internet. The Government Gateway provides authentication services so that the customer can be identified and his or her rights of access to information originating in back-end systems rigorously established. It will provide interoperability in support of portal services. Further definition and development of the Gateway by CITU is a key action in taking the strategy forward.

Information management

30. The public sector needs to move towards managing the information it holds as a corporate resource to benefit citizens and business and to improve the effectiveness and efficiency of government itself. This will require
   - definition and adoption by public sector bodies of corporate standards for data entities that are common across the public sector; for example, citizen name and address. CITU will publish these in the interoperability framework and will monitor their adoption
   - definition and adoption by public sector bodies of common meanings for common data descriptions, so that information accessed by public servants or the public can be understood and used effectively
   - a framework for departments and agencies to implement electronic records management systems
   - a common policy on the use of metadata.

Government Secure Intranet

31. Within government, the Government Secure Intranet (GSI) now connects all major departments and provides central government users with e-mail and Internet access.

Applications and facilities

32. The GSI will be developed as a corporate intranet for central government for the publication of information and collaborative working including online meetings and discussion groups. CITU and lead departments will deploy on the GSI enterprise wide facilities to enable evidence-based policy making and more effective service delivery across the public sector.

33. The facilities currently being considered include a directory, a diary, electronic

publishing, electronic document management across government, a customised corporate news service, bill and expense payments, knowledge management applications, management information systems, travel booking and payments, job advertisements and applications, a database of government statistics and research findings, a database of government publications and knowledge bases for key cross-cutting policy issues.

The Knowledge Network

34. The Knowledge Network is a pioneering application which will be available via the GSI and the Internet. It will provide fast access to authoritative information in support of a government-wide repository for policy briefing, facts and figures on agreed policy, in central government in the first instance. It will be a system which will provide information on government policy by region and locality and provide information on policy initiatives in respect of particular client groups.

GSI extranet connections

35. CITU is promoting the building of a number of robust, high-capacity interfaces from the GSI to enable connection of Local Authorities, NDPBs, the NHS and other public sector bodies, allowing the creation of extranets which make possible virtual team working across the public sector.

36. CITU will monitor progress on the TESTA II [5] network and provide access to the network, via the GSI. This service will enable the majority of central government departments and agencies to connect to European wide government networks.

Common knowledge base for call centres

37. CITU will investigate the provision of a common knowledge base for agents in call centres which signposts across the wider public sector
- contact names and numbers
- service experts
- basic information for call routing.

38. It will effectively join up government call centres to permit multiple issue enquiries to be dealt with more effectively. The common information system will be based on the GSI, and will include a common directory, common data exchange formats and a virtual voice network for the transfer of calls. It will take into account the need for data protection and privacy. Devolved administrations are being invited to participate in these arrangements.

39. The first stage in this process will be an analysis of where such a system will have most benefit.

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[5] *TESTA II - Trans-European Services for Telematics between Adminstrations - is a project to develop a network infrastructure to link up member states, the European Commission and other European administrations.*

4　Making it happen

Roles and responsibilities

1. This chapter outlines the roles and responsibilities for key players and stakeholders. Implementation of the **e-government** strategy will require innovative leadership throughout the public sector. There is a need for strong central direction, but which recognises regional and local diversity .

The e-Envoy

2. This strategy is owned by the e-Envoy on behalf of Ministers. He is responsible for the direction and implementation of the overall programme. His specific responsibilities are to
- lead the application of e-business thinking in government
- support the Chief Secretary of the Treasury and the e-Minister in a cross-cutting review in the 2000 spending review on the knowledge economy, which will consider the funding of electronic government [6]
- jointly chair the cross-cutting review in the 2000 spending review on the knowledge economy, which will consider funding for electronic government
- identify new opportunities for cross-cutting initiatives and how they should be carried forward
- provide strategic prioritisation of further work on infrastructure and policy issues
- accelerate and co-ordinate work to get services online
- sponsor a six-monthly review of strategy assumptions and direction. The first review, in December 2000, will take into account the impact of the Spending Review, the CITU report on major IT projects and the Performance and Innovation Unit (PIU) study on electronic service delivery
- monitor the implementation of the strategy and report on progress to Ministers.

Information Age Government Champions (IAGC)

3. The IAGC's role will be to
- support the e-Envoy in implementing and developing the strategy
- help in winning and sustaining commitment to the programme across the public sector
- assist the e-Envoy in identifying cross-cutting initiatives
- champion the delivery of departmental and sectoral e-business strategies [7]
- sustain a network for sharing knowledge and experience in **e-government** programmes.

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[6] *The Information Age Government Champions are 36 senior officials and local government representatives from across government and were established in 1999 in accordance with a recommendation in the* Modernising Government *White Paper. They were closely involved in the formulation of this strategy. Details of their work can be found on* www.iagchampions.gov.uk.

[7] *Guidance on the production of e-business strategies will be published separately.*

Central IT Unit (CITU)

4. CITU is the unit in the Cabinet Office which is responsible for coordinating and monitoring the strategy.

5. CITU will
- develop and monitor implementation of framework policies, standards and guidelines, ensuring that such policies and standards are adhered to
- support departments in their development of e-business strategies
- develop shared infrastructure and applications in collaboration with lead departments
- promote common policies on the management of information including privacy
- develop cross-cutting services on the GSI
- develop extranet links with the wider public sector
- coordinate action on skills for Information Age Government.

The Office of Government Commerce (OGC)

6. The OGC will formulate procurement policies and strategies and will have a role in strategic sourcing decisions, especially those with cross-government implications. CITU will work with the OGC, building on the recommendations of the review of major IT projects, to develop appropriate approaches to sourcing Information Age Government services and systems, taking into account the issues involved in delivering joined-up services. These arrangements will be available also to the devolved administrations, who are responsible for their own procurement decisions.

Central government departments, agencies and NDPBs

7. Public sector organisations will be responsible for developing and delivering e-business strategies that will set out plans for
- developing e-business models
- converging with standards and framework policies
- providing services which are accessible via the government and other portals
- electronic service delivery and internal process transformation
- implementing the recommendations from the review of major IT projects
- developing IT skills and awareness.

8. The extent to which planning and monitoring will be at the level of individual agencies, NDPBs and departments or of whole sectors (for example health, education or culture) is a matter for decision within those sectors. It may be, for example, that a department chooses to develop a single e-business strategy (but encompassing a number of e-business initiatives) for its sector in consultation with its sponsored bodies.

9. The delivery against targets for electronic service delivery is embodied in public service agreements (PSAs) and services delivery agreements (SDAs) with the Treasury as part of the financial planning process. Hence the targets for electronic capability are set in the wider context of targets for the take-up and quality of services.

The National Health Service (NHS)

10. For the NHS in England adoption will be in accordance with the existing collaborative arrangements between the NHS Executive, the NHS Information Authority and Heath Authorities and relevant local NHS funded organisations established under the NHS's *Information for Health* Strategy.

Devolved administrations

11. The devolved administrations will remain responsible for deciding their approach to developing and implementing electronic service delivery in respect of devolved services, including health and local authority services. The Joint Collaborative Group which the Scottish, Welsh and Northern Ireland Information Age Government Champions have agreed to establish with CITU will help to ensure that strategies in Scotland, Wales and Northern Ireland remain fully compatible with the broader UK approach.

Local government

12. CITU, the Department of the Environment, Transport and the Regions (DETR), the Local Government Association (LGA) and the Improvement and Development Agency (I&DeA) will continue to work closely together under the Central-Local Information Age Government Concordat to encourage the adoption of the strategic framework within local government in England. This work will be taken forward by a new body, the Central Local Information Age Forum (CLIAF), in the context of the process of reform taking place in local government following publication of the *Modern Local Government – In Touch with the People* White Paper.

13. In Scotland, the Scottish Executive is discussing with the Convention of Scottish Local Authorities how best to encourage councils to apply Information Age Government principles to their services. The National Assembly for Wales is in discussion with the Welsh Local Government Association on how best to take forward the application of Information Age Government principles in government across Wales.

14. More detailed guidance on how the strategy applies in local government is described in *Implementing e-government: Guidelines for local government*.

15. In addition, the Central Local Information Age Forum will
- establish an agreed process for Local Authorities Electronic Services Delivery targets
- develop the local government community's contribution to the national strategy implementation programme
- encourage local authorities to consider the applicability of the framework policies and guidelines within their own authorities and also in the context of central local working.

Industry

16. This strategy has been developed in consultation with our industry partners. Industry's role is fundamental to the success of the strategy.

17. Commercial organisations are likely to be involved in implementing the strategy in three main ways
- delivering services either directly or in partnership with public sector organisations. Identifying the right packaging of services, core and value added, that provide real benefits to the citizen, business and government
- acting as incubators to provide a source of best practice and support for e-businesses in the government sector
- working in partnership with government to provide infrastructure and services within government.

18. A significant element of the strategy will be for government to provide the right environment for innovative business and commercial models to flourish.

Skills

19. Implementing this strategy will place significant demands on public servants to work in new ways and to acquire knowledge about the new technology. They will need to understand how the evolving technology creates new possibilities for the way they can do business, and they will need increased skills in the application and use of information. The paper *Skills in Information Age Government* identifies these issues. An information skills map for public sector organisations is shown in Figure 2.

20. There are four principal areas for action
- *leadership and policy making* – we need to develop at all levels an understanding of the implications of new technology for policy making, service delivery, management and organisational culture
- *change and project management*
- *intelligent customer* – we need to be able to procure, finance, negotiate and manage relationships with suppliers intelligently

Figure 2: Information skills map

Leadership
- Strategic understanding
- E-commerce principles
- Governing of programmes and projects
- Mainstreaming project management
- Wider markets opportunities
- Role of innovation
- Change management

Business systems development
- e-business process design
- Project and programme management
- Business case development
- Communications with stakeholders
- Risk management
- Benefits management

Acquisition
- Procurement
- Channel set-up and management
- Service and performance management
- Deal making and negotiation
- Relationship management/partnering
- Supply chain management
- Financial instruments
- Managing consultants

End-user skills
- Policy administrator information skills
- Policy administrator IT practical skills
- Operational systems data management skills
- Operational systems IT skills

IT professionalism
- Project/delivery management
- Programme management
- Business and systems analysis
- Consulting and customer relations
- Technology inc Internet
- Systems Integration
- Systems Operation
- Service management

Specialist user skills
- Communications
- Statistics
- Economics
- Research and analysis
- Operational research
- Finance and personnel

Information professionalism
- Information science
- Librarianship
- Systems management (inc web development)
- Records and archiving

- *end-user skills* – we need to train all staff so that they can use new tools for better service and more effective working.

21. Change initiatives which involve the use of new technology will need to address information skills issues if they are to be successfully implemented. In their e-business strategies, public sector organisations should identify their skills needs and the means by which they will address them. To assist with that process, CITU will provide in June 2000 more detailed descriptions of the IT professional skills requirements identified in the skills map and toolkits for departments to carry out a skills audit. Departments and agencies will use these in their initial e-business strategies in October 2000, and the e-Envoy will report on information skills requirements across government in his first report on the implementation of the **e-government** strategy in December 2000.

Effective implementation

22. To underpin the effective implementation of the proposals in this strategy we must learn and apply the lessons which have emerged from CITU's study of major IT projects. To do this we have to develop and maintain a constant focus on improving the way projects are managed and implemented across government. These projects require
- a focus on delivering defined business objectives with measurable benefits, tracking them through the life of the project and measuring them
- strong leadership, clear accountability and improved levels of project management
- a raised awareness at all levels of the risks associated with large scale, complex projects, and in particular the extra effort that is required from both government and industry to implement major cross cutting initiatives.

23. It is essential that major cross-cutting initiatives are managed as single programmes reflecting the above points and avoiding the temptation to develop separate systems and 'join up' at a later point.

24. A major feature of this new environment will be a government-wide approach to learning and applying lessons from past projects to continuously improve performance. Gathering, maintaining and sharing information about the progress of major projects is an essential tool to enable departments to learn lessons from each other and benefit from shared experience – particularly for cross-cutting projects. This includes capturing and applying the experience of officials involved in the development of complex and innovative projects. This information will also allow the centre to take a corporate view of projects' links to, and effects on, the overall programme and business objectives.

25. We also need to address the public sector's ability to absorb and manage the volume of work required to implement this strategy. We must ensure, for example, that the necessary range of skills is available, appropriate contingency arrangements are developed and a well-

informed and professional approach is taken to contract negotiation and management. We must become more intelligent procurers across government, informed by knowledge of IT suppliers capability and performance across the range of services provided.

26. It is also vital that our industry partners in this ambitious agenda can demonstrate and apply effective project management and delivery practices. This includes thorough planning, detailed and agreed resource strategies and a clear understanding of the business change that is being delivered through the project. These standards must apply right across government. We are identifying the features of successful IT projects, and are bringing forward measures to ensure that they are in place for the future.

27. We are also learning the lessons from takling the Year 2000 problem so that government and business can be better equipped for the technical and mangement challenges of implementing the e-governement strategy.

5   Next steps

1. Taking the strategy forward will need commitment and investment across the public sector and openness to innovative ideas and approaches. The major milestones will be
  • May 2000: completion of the CITU study of major IT projects
  • July 2000: publication of the outcome of the 2000 spending review
  • July 2000: publication of the Performance and Innovation Unit report on new ideas and approaches to government electronic service delivery
  • October 2000: departments will report on how their current IT plans will converge with the strategy in this paper
  • December 2000: the e-Envoy will review the strategy and its progress in the light of all these developments.

2. Table 2 summarises the actions which will follow the publication of the strategy.

Table 2 Actions following the publication of the strategy

No	Action	Lead responsibility	In support	By when
1	Publish initial e-business strategies	Information Age Government Champions agencies, NDPBs and e-Envoy	CITU	October 2000
2	Identify lead departments and funding mechanisms for cross-cutting service delivery projects	e-Envoy	CITU	Ongoing First report December 2000
3	Provide strategic prioritisation of further work on infrastructure and policy issues	e-Envoy	CITU	Ongoing
4	Provide services so that they are accessible via the government portal and the government gateway	Information Age Government Champions, agencies, NDPBs	CITU	Ongoing First services by July 2000

No	Action	Lead responsibility	In support	By when
5	Develop and monitor implementation of framework policies, standards and guidelines	CITU		Ongoing
6	Develop shared infrastructure and applications	CITU		Ongoing
7	Implement common policies on the management of information, including privacy	CITU	Lead departments and agencies	March 2001
8	Develop the government portal	CITU		Initial live service July 2000
9	Infrastructure Programme management team in place. First wider public sector GSI extranet	CITU		Oct 2000 Oct 2000
10	Coordinate the actions on skills identified in *Skills for the Information Age*	CITU	Cabinet Office	Ongoing
11	Establish an agreed process for local authorities' electronic services delivery targets to be implemented starting July 2000	Central Local Information Age Forum	CITU, DETR, LGA and I&DeA	Ongoing
12	Assist the local government community's contribution to the implementation of the e-government strategy	Central Local Information Age Forum	CITU, DETR, LGA and I&DeA	November 2000
13	Encourage local authorities to consider the applicability of the framework policies and guidelines within their own authorities and also in the context of central-local working.	Central Local Information Age Forum	CITU,DETR, LGA and I&DeA	Ongoing
14	Establish joint collaborative group with devolved administrations	CITU	Scottish Executive, Welsh Assembly and CITU Northern Ireland	July 2000

Annex:
List of supporting and related documents

These documents are all published electronically at
www.iagchampions.gov.uk/guidelines.htm.

Framework policies

Web sites
The framework policy focuses largely on electronic publishing and the creation of a sound organisational basis within departments for managing their online presence, on good content and on technical standards that provide for consistency and the widest possible access to public sector sites.

Call centres
The call centre guidelines set out an approach to implementing call centres in the public sector, ensuring they are viewed as part of an overall business change process. The guidelines provide a set of standards for ensuring public sector call centres are accessible, efficient and helpful and provided a consistent and accurate interface to government services and information.

Smart cards
The smart card framework policy provides a set of standards and guidelines to facilitate interoperability. It is also provides advice on acquisition issues for public authorities; to ensure that accessibility is an integral part of any card scheme; and to provide guidance on data protection issues.

Authentication
Effective government online and call centre services will require a widely accepted means for citizens and businesses to authenticate themselves for the purposes of those transactions. The authentication framework policy and guidelines establish a common approach to authentication for government departments, agencies and the wider public sector.

Digital TV
Although digital TV is still very new and will continue to develop over the next few years, this early guidance is considered essential to ensure that public sector organisations are suitably informed about the strategic opportunities and practical implications of deploying digital TV based services.

Security
Information Age Government services, from simple information-giving websites to large, complex transactional services, are reliant upon the application of appropriate IT security measures. The security policy represents a call for a general alignment with best e-commerce practice. This applies across the public sector, and extends to all service delivery channels and all bodies which deliver public services.

Privacy	This annex sets out a work programme to deliver a privacy and data sharing policy for Information Age Government.
Electronic records management	The framework policy on electronic records management provides guidelines to support greater commonality and inter-departmental working in electronic document and records management, and in the sharing and exchange of electronic records across the GSI.
Metadata	This annex sets out a work programme to deliver a metadata policy for Information Age Government.
Interoperability	The interoperability framework policy sets out the policy and standards for achieving interoperability across all government departments and the wider public sector.

Implementation guidance

e-business strategies	This document describes the development of e-business strategies.
Skills in the Information Age	This paper sets out an holistic approach to meeting the skills needs required to deliver an Information Age Government.
Implementing e-government: Guidelines for local government	This paper sets out guidelines for implementing e-government in local government.

Background information

e-commerce@its best.uk	www.cabinet-office.gov.uk/innovation/1999/ecommerce/index.htm
Government portal	www.iagchampions.gov.uk/guidelines
Modern Local Government – In Touch with the People	www.local-regions.detr.gov.uk/lgwp/index.htm
Modernising Government	www.cabinet-office.gov.uk/moderngov/index.htm
Central Local Information Age Government Concordat	www.citu.gov.uk/cl_iag/concordat.htm
Foreign and Commonwealth Office	www.fco.gov.uk
Her Majesty's Stationery Office	www.inforoute.hmso.gov.uk