e-government

E-GOVERNMENT INTEROPERABILITY
FRAMEWORK

SEPTEMBER 2000

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

Information systems have the potential to transform the government and the services it provides to the public. But without consistent policies and standards to underpin those systems it will not be possible to work together to deliver 'joined up' services.

This policy document prescribes the technical standards and policies that will act as the foundation of our **e-government strategy**. These standards will allow information to flow seamlessly across the public sector and will provide citizens and business with better access to government services. In addition, by adopting Internet and World Wide Web standards, the Framework aligns government with the rest of industry and serves as a basis for reducing the costs and risks associated with carrying out major IT projects.

We are aware that the electronic world is changing rapidly but thanks to our internet based change management process, we intend not only to keep pace with this change, but where necessary, to act as a lead in the adoption of innovative market leading solutions. This is why I have set up the UK GovTalk website so that you can check the very latest public sector standards and comment on these, and also provide us with innovative proposals for solving some of our generic IT problems.

This **interoperability framework**, as a cornerstone of the **e-government strategy**, will enable us to address the challenges of today's diverse systems and position ourselves for new opportunities in the future.

Contents

Executive summary

1. Better public services tailored to the needs of the citizen and business, as envisioned in the *Modernising Government White Paper*, require the seamless flow of information across government. The e-government Interoperability Framework (e-GIF) sets out the government's technical policies and standards for achieving interoperability and information systems coherence across the public sector. The e-GIF defines the essential pre-requisite for joined-up and web enabled government. It is a cornerstone policy in the overall **e-government strategy**.

2. Adherence to the e-GIF standards and policies is mandatory. They set the underlying infrastructure, freeing up public sector organisations so that they can concentrate on serving the customer through building value added information and services. It will be for the organisations themselves to consider how their business processes can be changed to be more effective by taking advantage of the opportunities provided by increased interoperability.

3. The main thrust of the framework is to adopt the Internet and World Wide Web standards for all government systems. There is a strategic decision to adopt XML and XSL as the core standards for data integration and presentation. This includes the definition and central provision of XML schemas for use throughout the public sector. The e-GIF also adopts standards that are well supported in the market place. It is a pragmatic strategy that aims to reduce cost and risk for government systems whilst aligning them to the global Internet revolution.

4. Specifying policies and standards in themselves is not enough. Successful implementation will mean the provision of support, best practice guidance, toolkits and centrally agreed data schemas. To provide this, the government has launched the UK GovTalk initiative. This is a Cabinet Office led, joint government and industry forum for generating and agreeing XML data schemas for use throughout the public sector. Agreed and draft schemas under consultation can be found at www.govtalk.gov.uk

5. The site also contains toolkits and guidance and it outlines the UK GovTalk management processes.

6. The aims of the e-GIF will not be achieved overnight. The strategy needs to be managed as a long-term ongoing initiative and must therefore be supported by robust processes. These processes, including the roles and responsibilities of key stakeholders, committees, management and working groups, are outlined in the document.

7. It is also essential to ensure that the e-GIF remains up to date and aligned to the requirements of all stakeholders and able to embrace the potential of new technology and market developments. The e-GIF introduces an Internet based change management process which has been designed to engage and serve the stakeholder community in a dynamic way and to bring in innovations from industry on a global basis.

1 Overview

Introduction

1. Modernising government, joined-up government demands joined-up information systems. Interoperable systems working in a seamless and coherent way across the public sector hold the key to providing better services tailored to the needs of the citizen and business and at a lower cost.

2. At the same time, clearly defined policies and standards for interoperability and information are also key to staying connected to the outside world and aligned to the global information revolution. This revolution is fuelled by the explosive growth of the Internet and its technologies.

3. The e-government Interoperability Framework (e-GIF) sets out government's policies and standards for achieving interoperability and seamless information flow across government as well as the wider public sector. The e-GIF is a fundamental Framework Policy for **the e-government strategy** published in April 2000.

Scope

4. The scope of the e-GIF includes intradepartmental systems and the interactions between:
   - UK Government department and other UK Government departments
   - UK Government and wider public sector
   - UK Government and foreign governments (UK/EC, UK/US etc)
   - UK Government and businesses (world wide)
   - UK Government and citizens.

5. UK Government includes central government departments and their agencies, local government and the devolved administrations. The wider public sector includes non departmental public bodies (NDPBs) and the National Health Service.

6. The e-GIF standards are mandated on all new systems. Legacy systems which need to link to the Government Secure Intranet (GSI), Government Portal (Gateway and UK Online), the Knowledge Network or other systems, which are part of electronic service delivery, will need to comply with these standards.

Main features

7. The e-GIF comprises three major components: policies and standards, strategy for XML schemas provision (the UK GovTalk initiative) and management processes. These are outlined below.

Policies and standards

8. The technical policies and standards for interoperability across the public sector are specified in Section 2 of this document. These are the minimum set necessary to support the range of transactions and services across government and to integrate information systems within government. These policies and standards have also been chosen to interconnect and align government to the Internet and its future development.

9. The policies and standards in the e-GIF cover three key areas of technical policy, which are essential for interoperability. These are Interconnectivity, Data Integration and the Information Access.

10. In all of these areas, the main thrust of the specification has been to adopt the Internet and World-Wide Web standards for all government systems. There is also a strategic decision to adopt XML as the main standard for data integration. This strategy includes provision of XML Schemas for use throughout the public sector.

Implementation support - UK GovTalk

11. The adoption of XML (Extensible Mark-up Language) and XSL (Extensible Stylesheet Language) form the cornerstone of the government data interoperability and integration strategy. However adopting these standards, in themselves, is not sufficient.

12. Achieving data coherence across government means that government organisations need data schemas that have been agreed for use throughout the public sector. They also need information, best practice guidance and toolkits to make implementation easier. In order to meet these demands, the government in partnership with industry has set up the UK GovTalk initiative. This initiative, managed by a cross government and industry working group, will publish on the Internet the draft and agreed XML data schemas which can then be applied to any public sector system. The group will also make available on the www.govtalk.gov.uk site the best of breed toolkits, guidance and information on XML implementation.

13. Section 3 of this document gives further details on the UK GovTalk initiative and other implementation projects.

Management processes

14. The work of integrating and evolving information systems across the public sector is a complex on-going process. The e-GIF approach and policies must not only support and enhance Government's business process but also ensure that it stays tuned to the possibilities of new technological advances and innovations.

15. The e-GIF management processes are described in Section 4. These cover:
- a governance process that describes the roles and responsibilities, committee structures and compliance processes
- an Internet based change management process that is designed to introduce a global consultation and change process for capturing maximum stakeholder involvement and innovation.

Relationships with other initiatives

16. The e-GIF is one of the policy frameworks for the **e-government strategy** of which it is an integral part. Its relationship with other initiatives is described below.

GSI

17. The policies and standards specified in this framework are consistent with the Government Secure Intranet (GSI). Future developments of the GSI will also be kept consistent with the e-GIF policies and standards.

Electronic service delivery

18. Following the publication of its e-commerce strategy in the *e-commerce@its.best.uk* report, the government is now looking at strategic options and priorities for services to the citizen and how government should be organised to deliver these. These citizen focused services, once defined and agreed, will act as major drivers for the types of data schemas that will need to be agreed and delivered through the UK GovTalk initiative.

Portals

19. The Government Portal (UK Online and Government Gateway) will provide an easy to use, trusted and personalised service allowing the citizen to deal with government on a one-to-one basis, whilst presenting government as an integrated organisation. It aims to be the citizen's 'personal window' on government and the preferred method for the public to engage with the public sector. The Government Portal delivers a major element of the government's Information Age agenda.

20. The e-GIF policies, standards and data schemas provide the main element of the Government Portal technical architecture. The e-GIF standards are applicable to all future portal developments in government and also give the standards specification for private sector portals wishing to link up to the government portal.

Metadata Framework

21. The Metadata Framework is an associated policy to the e-GIF. It provides semantic definitions for public sector metadata (how the public sector describes the information it has) and works closely with the UK GovTalk Group to ensure that these definitions are adequately expressed in XML Schemas.

Knowledge Network Project

22. The Knowledge Network Project will provide a step change in the production and availability across government of fast, modern flows of knowledge, facts and figures. It will be a powerful boost for developing common metadata structures and interoperable knowledge management systems. The Knowledge Network will be kept consistent with the e-GIF policies and standards.

Your involvement

23. Continual engagement of all our stakeholders in the development and implementation of the e-GIF is a fundamental policy objective. Government departments and their agencies, NDPBs, local government, the NHS, industry and the citizen are all encouraged to comment and suggest ways of improving the strategy, support and implementation of e-GIF. Our preferred way is through the Internet. There is a dedicated web site www.govtalk.gov.uk Please use the submission process, as detailed on the web site, to make your input. Alternatively, please contact us at the e-GIF Helpdesk detailed below.

e-GIF Helpdesk

24. Paul Ukpai
    Cabinet Office
    53 Parliament Street
    London SW1 A2NG
    Tel: 020 7217 2434/2447
    Fax: 020 7217 2431
    e-mail: seamless@citu.gsi.gov.uk

2 Policies and technical standards

Introduction

1. This section of the e-GIF defines the minimum[1] set of technical policies and standards necessary to achieve interoperability and seamless information flow across government and the public sector.

2. The current specification for the e-GIF is given below and covers the areas of interconnectivity, data integration and information access. Each area is presented in two parts, first the key policy decisions and then a table containing the specified standard including version numbers and notes. Government is, however, committed to ensuring that these policies and standards are kept aligned to the changing requirements of the public sector and to the evolution of the market and technology. Please consult the web site www.govtalk.gov.uk for the latest version of the e-GIF specification.

Key decisions and drivers

3. At the highest level, the e-GIF has been shaped by three key policy decisions, these are:
   - **alignment with the Internet** - the universal adoption of common standards used on the Internet and World Wide Web for all public sector information systems
   - **adoption of XML** - as the primary standard for data integration and presentation on all public sector systems
   - **browser as the key interface** - all public sector information systems to be accessible through the common browser

4. The selection of e-GIF standards has been driven by:
   - **interoperability** – only standards that are relevant to systems interconnectivity, data integration and information access are specified
   - **market support** - the standards selected are widely supported by the market, and are likely to reduce the cost and risk of government information systems
   - **scalability** – standards selected have capacity to be scaled to satisfy changed demands made on the system, such as changes in data volumes, number of transactions or number of users.
   - **open** - the specifications for the standards are documented and available to the public at large.

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[1] *Additional standards may be necessary to support specific requirements, for example the NHS may use DIDCOM V5 for certain types of graphic information*

Interconnection policies

5. The policies for systems interconnection are defined below:

UK Government policy for networks

- Departments are to interconnect using IPv4, noting that UK Government is considering the adoption of IPv6 in the near future.

UK Government policy for network security

- Communications security is to meet the requirements defined by the GSI security policy.

UK Government policy for e-mail

- To use a product that supports interfaces which conform to the SMTP/MIME.

- To use S/MIME V3 for messaging security, where security considerations require the use of e-mail confidentiality. An example of where e-mail confidentiality is applicable is sending private data over unprotected networks. However, e-mail confidentiality is not necessary for sending private data within protectively marked networks such as the GSI.[2]

UK Government policy for Directory

- Use of the UK Government Directories Schema to support a range of communication services including message handling, telephone and facsimile services as well as interactive access to a range of other applications.

UK Government policy for Domain Naming

- Projects are to follow the UK government schema on allocation of IP addresses

- DNS is to be used for Internet/intranet domain name to IP address resolution.

UK Government policy for File Transfer Systems

- UK Government Intranets are to support FTP. Restart and recovery facilities of FTP are to be used when transferring very large files.

UK Government policy for Terminal Emulation

- Web based technology is to be used in applications that previously used Terminal Emulation whenever possible.

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[2] *Note that S/MIME V3 should not be used at present for ensuring the confidentiality of protectively marked material. In these cases, CESG advice should be sought*

Interconnection standards and specifications

6. The UK Government standards and specifications for interconnectivity are:

Table 1 Standards and specification for interconnectivity

Component	Standard
Hypertext transfer protocols	HTTP v1.1 (RFC 2068) Hypertext standards include on-line wide-area publishing services.
E-mail	E-mail products that support interfaces that conform to the SMTP/MIME. This includes RFC 821, RFC 822, RFC 2045; RFC 2046; RFC 2047; RFC 2048; RFC 2049.
	The UK Government messaging Naming and Addressing policy and procedures for 'department.gov.uk' are in IS Notice 94, see www.ccta.gov.uk/services/list/domains.htm.
	The messaging Naming and Addressing policy and procedures for 'department.gsi.gov.uk' are delegated to the GSI contractor.
E-mail security	S/MIME V3 shall be used where appropriate for pan government messaging security unless security requirements dictate otherwise.
	This includes RFC 2630.to RFC 2633.
Directory	X.500 core schema as defined in CWC GSI technical note No1.
	LDAP V3 is to be used for general-purpose directory user access.
Domain name services	DNS (RFC 1035)
	The Domain Naming procedures for 'department.gsi.gov.uk' are delegated to the GSI contractor.
File transfer protocols	FTP (RFC 959) (with restart and recovery) and HTTP (RFC 1945) for file transfer.
Bulletin board services	NNTP (RFC 977)
Communications security	Communications security as defined by the GSI security policy.
IP security	IP-SEC (RFC2402/2404)
IP encapsulation security	ESP (RFC2406)
LAN/WAN interworking	IPv4 (RFC 791)
Transport security	SSL v3/TLS (RFC 2246)
Transport	TCP (RFC 793) UDP (RFC 768) only within the GSI, not across the firewall to the Internet.

Note: Copies of the IETF RFCs can be found at www.ietf.org/rfc.html

Data integration policies

7. **UK Government policy is to use:**
- XML and XML schemas for data integration [3]
- UML, RDF and XML for data modelling and description language
- XSL, DOM and XML for data presentation.

8. XML products will be written so as to comply with the recommendations of the World Wide Web Consortium (W3C). Where necessary the government will base the work on the draft W3C standards but will avoid the use of any product specific XML extensions that are not being considered for open standardisation within the W3C.

9. Centrally agreed XML schemas are approved through the UK GovTalk processes (see Section 3). They are held in www.govtalk.gov.uk

Data integration standards and specifications

10. The UK Government standards and specifications for data integration and transformation are:

Table 2 Standards and specifications for data integration

Component	Standard
Meta data /Meta language	XML (Extensible Markup Language) as defined by W3C www.w3.org/XML.
Meta data definition	XML-schema
	Government XML schemas as agreed by UK GovTalk and held in www.govtalk.gov.uk
Data transformation/presentation tools	XSL (Extensible Stylesheet Language) as defined by W3C www.w3.org/TR/xsl/.
Data Modelling and Description Language	UML (Unified Modelling Language) www.omg.org/technology/documents/formal/omg_ modeling_specifications.avai.htm
	RDF (Resource Description Framework) as defined by W3C www.w3.org/TR/REC-rdf-syntax/
Document modelling	XML Document model (DOM) as defined by W3C www.w3.org/TR/REC-DOM-Level-1/ www.w3.org/TR/DOM-Level-2/
Data definition and schema standardisation process	As per UK GovTalk processes in section 3
Component	Standard

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[3] *Legacy systems, which are closely coupled and or systems that are internal to departments (such as batch processing systems) may use other processing environments*

Minimum interoperable character set	ISO/IEC 8859-15:1999
	Information technology — 8-bit single-byte coded graphic character sets — Part 15: Latin alphabet No. 9 www.iso.ch/cate/d29505.html
Geospatial data	GML (Geospatial Markup Language) as defined by Open Geographic Council. www.indexgeo.com.au/metadata/sgml-xml.html

Note: Copies of the W3C specifications can be found at: **www.w3.org/TR**

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12. **Notes on XML and middleware:**
- not all systems are required to be directly XML enabled as illustrated below
- where appropriate it is acceptable to use middleware as illustrated below.

Note: although the configurations below present potential solutions, it should be clear that

new procurements should strive to use the direct XML model as shown.

Figure 1 Direct XML model

Direct interchange

Interchanges via middleware
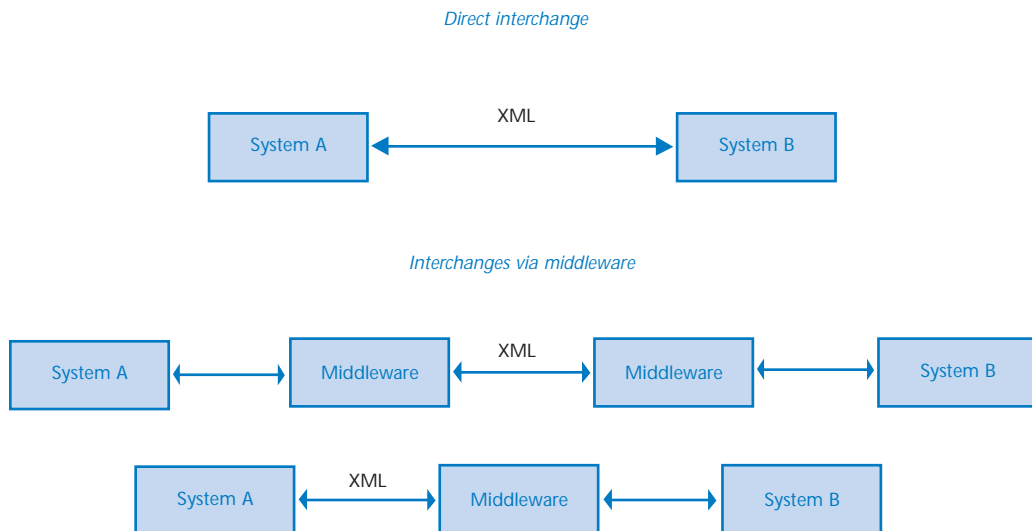
Information access policies

13. **UK government policies for information access are:**
   - government information systems will be designed so that as much information as possible can be accessed and manipulated from common commercial browsers
   - government information systems will be designed to be available, as appropriate, on the Internet, either directly, or via third party services
   - government information systems will support the standards and specifications listed in the Browser standards and specifications table below using, where necessary, plug-ins to the Browser or dedicated viewers
   - government information systems will be designed to provide protection against security risks of connection to the Internet, including the ability to protect against the vulnerability of downloading executable content code that is not authenticated
   - government information systems will be designed to adopt as browser standards those common elements supported by commercial market leading products
   - middleware or plug-ins are to be used, when necessary, to enhance simple browsers
   - browser standards should support those features that a business or citizen may be assumed to have available or can download without incurring a licensing fee.

Information access standards and specifications

14. The UK Government standards and specifications for information access, browsers and viewers are:

Table 3   The UK Government standards and specifications for information access, browsers and viewers

Component	Standard
Hypertext interchange formats	Those parts of HTML v4.0 commonly implemented by Netscape Navigator v4 and MS Internet Explorer v4 and v5, plus their interoperable extensions.
Viewer document file types	Adobe Acrobat as (.pdf), minimum viewer version 3
	Lotus Notes/Domino as (.htm) or (.nsf) files
	Microsoft Word document as (.htm) files.
	Rich Text Format as (.rtf) files.
	Plain/Formatted Text as(.txt) files
	Other product viewer as (.htm) files
Viewer spreadsheet file types	Microsoft Excel , as (.htm) files.
	Delimited file as (.csv) files
	Other product viewer as (.htm) files
Viewer presentation file types	Microsoft PowerPoint as (.htm) files
	Other viewer products as (.htm) files

Component	Standard
Character sets and alphabets	UNICODE
	Amendment 1: 1996 to ISO/IEC 10646:1993:
	Transformation Format for 16 planes of group 00 (UTF-16)
Graphical/still image information exchange standards	Joint Photographic Experts Group /ISO 10918 (.jpg)
	Graphics Interchange Format (.gif)
	Portable Network Graphics (.png)
Moving Image and audio/visual information exchange standards	Moving Picture Experts Group (MPEG-1 /ISO 11172/.mpg)
	Conversion is provided by most mainstream packages
Audio/video streaming data	Real Audio
	Real Video
	Shockwave
	Windows Media Format (.wmf)
	Apple Quicktime
	Waveform Audio File Format (.wav).
	8μ Law
Animation	Macromedia Flash (.swf)
	Dynamic html (.dhtml)
Scripting	ECMA 262 Script
	Java Virtual Machine – for browser enhancements
General purpose file compression	File types (.tar), (.zip) and (.gz) file types

15. The services to be delivered to the citizen will dictate the standards required for delivery but some browsers only support a subset of the required standards and so can only offer a limited set of e-government services. These may be older systems or emerging technology using low capacity platforms, such as WAP based browsers. Providers of these browsers will need to develop middleware, using the standards list if they wish to support e-government services.

3 Implementation support - UK GovTalk

Introduction

1. Section 2 of this document specified the technical standards and policies required for the achievement of interoperability across the public sector. But specification of policies and standards in themselves are not enough.

2. This section describes the UK GovTalk initiative, which forms a fundamental part of the e-GIF implementation strategy. UK GovTalk provides implementation support through the production of centrally agreed, freely available, XML based data schemas that can be reused throughout the public sector to reduce the costs and risks of developing data interchange systems. The initiative helps developers by providing information, best practice guidance, and toolkits for conversion of legacy data. It is intended to make adoption of the e-GIF policies and standards simple, attractive and cost effective.

Priorities

3. Achieving data interoperability and coherence across the whole of the public sector is a major task. Although UK GovTalk will eventually provide XML schemas for all services, the programme for delivering schemas and agreeing further interoperability standards will be primarily driven by the needs of citizen and business facing services.

4. Priority will also be given to data schemas that serve the requirements for services or processes that are generic across many departments. Facilitation of new, joined-up services and inter-departmental process developments will also be given precedence.

UK GovTalk role and membership

5. UK GovTalk is a government initiative led by the Cabinet Office. It is designed to get UK public sector organisations and private sector companies to work together in agreeing XML schemas and providing associated support to the UK public sector.

6. The initiative is managed by the UK GovTalk Group, which reports to the Interoperability Working Group. The UK GovTalk Group provides a repository for XML schemas, best practice guidance and toolkits for developing interfaces and conversion. The group will liaise with international initiatives and standards groups such as W3C, OASIS and other XML interest groups.

XML schemas production

7. The primary role of the UK GovTalk Group is to promote the production and management of the XML schemas necessary to support data interoperability requirements of the **e-government strategy**.

8. XML schemas will be developed by specialist groups, established to support specific projects (see the Portal Schemas Project below), or by open submission to the UK GovTalk web site either in response to a Request for Proposals or as an unsolicited proposal. In each case, the UK GovTalk Group will manage the acceptance, publication, and any subsequent change requests for the schema. XML schemas that have been accepted by the group will be published on www.govtalk.gov.uk and will be open for public comment and requests for change.

9 The UK GovTalk Group sets the design rules to be used by the XML schema developers and will use these to validate schemas proposed for publication. The rules include compliance with W3C standards as described in 2.7.

10. The UK GovTalk Group will track international XML standards development through links with W3C and with organisations such as OASIS, the Electronic Government Framework (EGF) and others. These links will provide provisional data schemas, which will be taken as one of the inputs for government wide consultation and adoption if appropriate.

www.govtalk.gov.uk

11. A primary component of the UK GovTalk initiative is the web site, www.govtalk.gov.uk The site supports the whole initiative and incorporates the management processes so that government can consult and take decisions using the power and speed of the Internet. As already described, the web site will be used to seek proposals for schemas, publish them for comments and receive requests for changes to them. The site is designed to encourage widespread participation in the development of the schema set and is completely open for the submission of proposals and comments to encourage innovation from the public sector and industry.

12. The web site will also be used to provide help and guidance for XML schema developers. This will include best practice guidance and case study material, as it becomes available. The UK GovTalk Group will identify toolkits to support the production of XML schemas, and specifically to help with the conversion of legacy system data. Where possible the tools will be available through the web site.

Membership

13. Public and private sector organisations working on UK Government interoperability projects may be invited to become full members who attend group meetings and take part in decision making and direction setting for the group. The list of full members will change over time as new Interoperability projects are started and existing ones are completed. All organisations involved in public sector XML based projects and any other standards forming part of e-GIF may become associate members who have information about new proposals and changes pushed to them by e-mail.

14. The current membership and the Terms of Reference for the UK GovTalk Group can be found at www.govtalk.gov.uk

Portal Data Schemas Project

15. The Government Portal is a flagship project for delivery of a major element of the Government's Information Age Agenda. It will provide highly personalised and integrated services in an efficient and cost effective manner. The Portal has three major components:
- the **front** end, being developed under the working title '**UK Online Citizen's Portal**'
- the **middle** layer which has the working title of '**government gateway**'
- the **back** end that links existing and new departmental services.

16. The services delivered through the Portal, **UK Online Citizen's Portal** and the **Gateway**, require agreed standards and data schemas to be applied across all of the portal elements and all participating systems across government. The Portal will act as a major driver for the data standardisation and schema generation activity.

17. The **Portal Data Schemas Project** has been established, by the UK GovTalk Group, to manage the generation and timely delivery of the agreed XML data schemas required for government services delivered through the Portal. The XML data schemas required for the portal services will be the first outputs of the Portal Data Schemas Project and will be agreed through the GovTalk processes as a prioritised delivery.

18. Terms of Reference for this XML schemas project, and others, are published on www.govtalk.gov.uk

4   Management processes

Introduction

1. As the **e-government strategy** rolls out, technology and standards will continue to develop rapidly. The e-government Interoperability Framework must be managed as a long-term, ongoing initiative that is responsive to this fast developing e-environment. This section describes governance of the framework and how change will be managed. Governance covers roles and responsibilities, committees and compliance processes. Change management describes how the e-GIF will be updated and introduces a process for open, global consultation. The change processes are designed to foster innovation and involve stakeholders in government and in industry whilst managing evolution of e-GIF at Internet speed.

Governance

2. The interoperability framework embraces government, business and the citizen. Each has a role to play in the development of the framework. This section outlines the roles and responsibilities for key groups. It also outlines the decision-making structures and the processes for encouraging compliance and coherence.

Roles and responsibilities

3. The roles and responsibilities for the central government, public sector and industry organisations are outlined below. Whilst this is not meant to be exhaustive it does indicate the main functions.

The Office of the e-Envoy

4. The Office of the e-Envoy in the Cabinet Office is the lead Authority for implementing and maintaining this strategy. In collaboration with departments, local authorities and other public sector bodies, the Office of the e-Envoy will:
- lead the development and maintenance of the e-government Interoperability Framework and provide the management infrastructure to support the processes
- act as the focal point for co-ordinating interoperability efforts throughout government and ensuring a rapid response to proposals and priorities of government
- manage co-ordination with other governments and international bodies

- lead and manage the UK GovTalk Group and, through it, co-ordinate the provision of:
  - agreed XML Schemas for use throughout government
  - toolkits for interfaces and conversions
  - best practice guidance
- manage the government and industry wide consultation process
- manage the **govtalk.gov.uk** web site
- maintain a register of compliance across the public sector and known users in the private sector
- manage the Portal Data Schemas Project and other schemas development groups
- manage the compliance process and ensure that interoperability policies and roles are adhered to
- manage interaction with similar initiatives and standards bodies elsewhere across the world including W3C, IETF, EGF, OASIS and others.

Public sector organisations

5. The role of government departments, their agencies, NDPBs, the NHS, devolved administrations and local government is essential to successfully delivering interoperability in the public sector.

6. Although central direction will be provided where required, much of the action will take place in individual public sector organisations that will need to:
- contribute to the continuous development and improvement of this strategy
- ensure that e-GIF compliance is a fundamental part of their organisational IT strategy
- produce a 'roadmap' for implementing the organisation's conformance with the strategy
- work with users of their services or data to identify those services that can usefully be made available to others
- ensure that they have the skills to define and use the standards needed for interoperability
- establish a contact point who understands the impact of requests for change and can respond within the stated time period
- budget for and supply resources to support the processes
- identify the relevant customer(s) or stakeholders within their organisation and ensure their interests are represented
- take the opportunity to rationalise processes (as a result of increased interoperability) to improve the quality of services and reduce the cost of provision.

Industry

7. This strategy is based on government working in open partnership with industry and has been developed through close working with our industry partners. It proposes joint working and development of the policies and standards for interoperability, relying heavily on industry worldwide to comment and to provide innovative solutions. Specifically, the following roles will need to be filled:
- application of the policies and standards agreed in this framework to systems delivered to the public sector
- participation in the consultation process through the Request for Comment (RFC) and Request for Proposals (RFP) processes
- introduction of innovations in technology and business to continually improve this strategy and the delivery of its objectives 'at Internet speed'
- participation in the UK GovTalk Group, the Advisory Board and schemas project groups.

The citizen

8. The e-government initiative is about Government better serving the needs of the Citizen. The e-GIF is an enabling framework for delivering the services seamlessly and coherently. The Government welcomes comments, suggestions and indeed innovations which may help Government to improve information access and service delivery to the Citizen. Please use the UK GovTalk site at www.govtalk.gov.uk

Management groups

9. This section describes the management groups involved in taking forward the e-GIF.

Information Age Champions

10. The Information Age Government Champions (IAGC) are senior government officials at board level within central, local government and the NHS. They have collective responsibility for the **e-government strategy** of which this policy framework is a part. The IAGC is the overall management committee that owns the e-GIF. More information about the IAGC can be found at www.iagchampions.gov.uk/

Interoperability Working Group

11. This group operates under the IAGC. The Interoperability Working Group produced this document and is responsible for all aspects of the framework including policies, standards, implementation and management. Membership of the group is open to all public sector bodies as represented in the IAGC. Additionally, industry members may also participate in the group on a permanent or call off basis.

12. Terms of Reference for the group are published on www.govtalk.gov.uk

UK GovTalk Group

13. This group operates under the Interoperability Working Group and consists of lead government departments and representatives of the industry consortia engaged in the UK GovTalk initiative. The role of the group is to manage the generation of XML Schemas, produce best practice guidance and identify and make available toolkits. This group will closely co-ordinate its work with the requirements of the Government Portal and the needs of joined-up government. The group will also review business processes and requirements across the public sector, to address particular interoperability needs, against the requirements for joined-up government.

14. Terms of Reference for the group can be found at www.govtalk.gov.uk

XML schemas projects

15. In its role of managing XML schemas production, the UK GovTalk Group will commission groups to develop schemas for specific projects. The primary example of this is the Portal Data Schemas project, which has been created to develop the schemas required for the government portal. Each project team will comprise developers, who build the XML schemas, and user representatives who comment on the requirement. Schemas built by XML schemas projects will pass through the UK GovTalk approval process and will be published on the UK GovTalk web site to be available for use by other projects throughout the public sector.

Advisory Board

16. An independent government and industry Advisory Board has been established to provide a longer-term view of technology trends and how they may influence the e-government Interoperability Framework. The membership of this group has been selected so that the very best leadership can be brought to bear in driving the overall direction and strategy for the e-GIF.

17. Terms of Reference for the Advisory Board can be found at www.govtalk.gov.uk

Compliance

18. The e-GIF sets the basic standards for pan-governmental interoperability and coherence. These standards are essential for joined-up web enabled government. The government sees the achievement of these goals as paramount.

19. Compliance to the e-GIF is mandatory for interactions falling within the scope of the e-GIF as described in 1.4. In practice, organisations will not be able to participate in data interchange processes unless they comply with the standards. The compliance rules are that:
- the e-GIF standards are mandated on all new systems
- legacy systems which link to the GSI, Government Portal (Gateway and UK Online), the Knowledge Network, or other systems which are part of electronic service delivery, will need to comply with these standards.

20. Each department must include compliance with these standards in its own project approval process. Whilst compliance is by self regulation, it is expected that the policies and standards set out in the e-GIF will be used by organisations involved in project audits, reviews and approvals by the National Audit Office and the Audit Commission.

21. The e-GIF standards will also be part of the conformance check for the release of funding by the e-Envoy and HM Treasury.

22. However, government's approach to compliance is to help stakeholders as much as possible. In view of this the UK GovTalk web site maintains a database for organisations to register their compliance with specific standards. Organisations will also be able get help with compliance problems through the web site.

Change management

23. The e-GIF will inevitably change and will need to change quickly over time. The change management process must ensure that the e-GIF remains up to date and is aligned to the requirements of all stakeholders and to the potential of new technology and market developments. This section describes an inclusive Internet based consultation process that will encourage participation and innovation. It then goes on to describe how changes to the standards will be managed.

Consultation and innovation

24. The overall strategy for Information Age Government identifies three basic forms of dialogue: public sector to public sector; public sector to business; public sector to the citizen. If interoperability standards are to fully support the strategy then they must be open to the widest form of consultation that involves all these players. The e-GIF consultation process will target organisations that are known to be interested in the specific standards, having been identified as participants in the service, or users of existing standards, but will be open to all who may wish to comment. Unsolicited comments and suggestions will be encouraged over the web site. Current distribution lists of e-GIF stakeholders can be found at the web site.

Request for Comments (RFC)

25. All draft policies, specifications and XML schemas will be posted on the UK GovTalk web site with a Request for Comments on the proposed draft or change. Registered stakeholders and members of UK GovTalk will be notified by e-mail of the RFC but the web site offers an invitation to anyone to comment on the draft document. All comments received will be acknowledged and the outcome of the RFC will be published on the site. The RFC process does not preclude unsolicited comments on currently agreed policies and decisions, which are also encouraged.

Request for Proposals (RFP)

26. Where the RFC process asks for comments on proposed solutions, the government also requests innovative solutions to problems where the solutions are not clear. In this case, a Request for Proposals will be posted on the web site, outlining the requirement. The aim is to attract innovation and the most cost-effective solution to the problem, using the worldwide industry and the population base. If a particular proposal is taken forward, this will be published on the site.

e-GIF standards change management cycle

27. A proposal for a new standard may come from any stakeholder, including industry, who has identified an opportunity for interoperability. Examples may be the identification of a new process for the government portal or an unsolicited proposal through the UK GovTalk web site. If the proposer can produce a clear requirement that the UK GovTalk team can progress then a draft standard will be prepared. Otherwise the Request for Proposals process will be activated to generate a candidate proposal.

28. The proposed standard is then published on the Internet for open consultation with a Request for Comments with a deadline set by the Interoperability Working Group. All the comments are reviewed and the Interoperability Working Group will publish the final version of the standard on the Internet.

29. Following publication, the standard is open to requests for change. The Interoperability Working Group will periodically review standards to assess their take up and value. Anyone may propose a request for change to a published standard, which enters the consultation/ comment/ review/ publication cycle. The processes are illustrated in the figure below.

30. An important feature of the change management process is that members of UK GovTalk and registered users of standards are e-mailed with proposed changes to the standards.

*Figure 2 The consultation/
comment/review/
publication cycle*
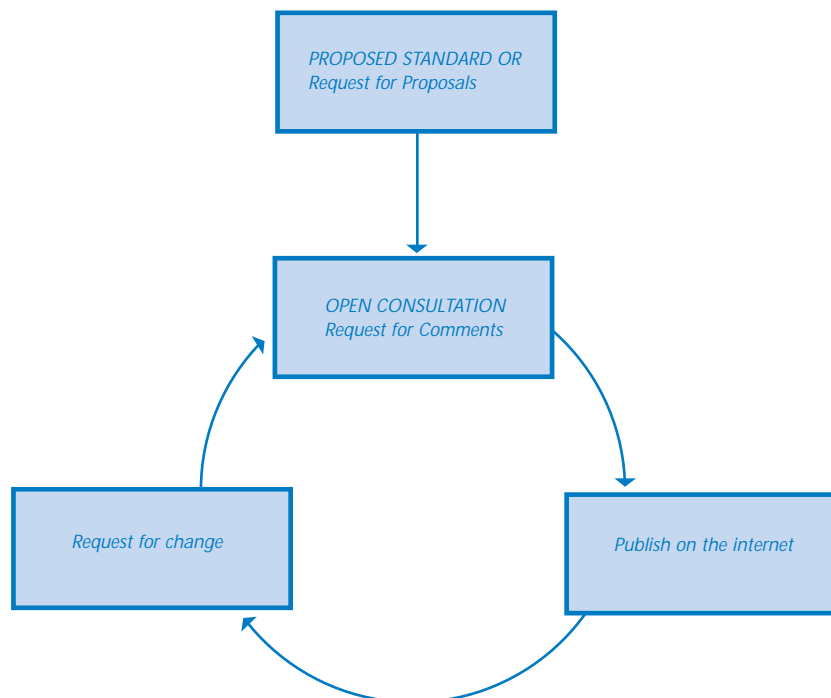
Updates to the e-GIF

31. The e-government Interoperability Framework will be formally updated every six months, subject to guidance from the Information Age Government Champions and the Interoperability Working Group Advisory Board.
- Issue 1 was published in September 2000.
- Issue 2 will be published in April 2001

32. Published issues will be available on the Internet through www.govtalk.gov.uk

33. The site will also contain working drafts of the document giving advance information on government direction and the possible content of the next issue of the e-GIF to show how the framework is developing and to invite comments on it.