

Open Standards Principles:

For software interoperability, data and document formats in government IT specifications



OPEN STANDARDS PRINCIPLES:

**For software interoperability, data and document formats in
government IT specifications**

#opengovIT

Foreword



Government IT must be open - open to the people and organisations that use our services and open to any provider, regardless of their size.

We currently have many small, separate platforms operating across disconnected departments and IT that is tied into monolithic contracts. We need to have a platform for government that allows us to share appropriate data effectively and that gives us flexibility and choice.

Already we have started to make progress and there is activity right across government that demonstrates our commitment to achieving the change we need.

The Government Digital Service has launched [GOV.UK](https://www.gov.uk) - a simpler, clearer, faster and common platform for government's digital services, based on open source software. The whole site is designed around the needs of the user. GDS has also developed the online petitions system for the UK Parliament to enable people to raise, sign and track petitions. It was developed by SMEs and is built on open standards. Another site [legislation.gov.uk](https://www.legislation.gov.uk) – the online home of legislation – was designed around open standards so more participants could get involved. It connects with inhouse, public and private sector systems and has allowed The National Archives to develop an entirely new operating model for revising legislation. The private sector is investing effort in improving the underlying data. Companies then re-use the source code for processing the data and are including this in their own commercial products and services.

But we can do more. The publication of the Open Standards Principles is a fundamental step towards achieving a level playing field for open source and

proprietary software and breaking our IT into smaller, more manageable components.

We are being open and transparent in how we implement this new policy. We believe that with your ongoing involvement we can achieve better services for our taxpayers. We encourage you to continue to challenge us to deliver affordable, open IT for government - IT that works for you.

A handwritten signature in black ink that reads "Francis Maude". The signature is written in a cursive style with a large initial 'F' and a long, sweeping tail.

The Rt Hon Francis Maude MP

Minister for the Cabinet Office and Paymaster General

Contents

Foreword 1

Introduction..... 4

Open Standards Principles..... 7

Sources of further information 24

Annex 1: Definitions and glossary 25

Introduction

This policy becomes active on 1 November 2012. From this date government bodies¹ must adhere to the *Open Standards Principles - for software interoperability, data and document formats in government IT specifications*.

The *Government ICT Strategy* (March 2011)² committed the Government to creating a common and secure IT infrastructure based on a suite of agreed, open standards. An updated IT Strategy is currently being developed by Cabinet Office. A cross government digital strategy is also being prepared, which will focus primarily on the opportunity to harness technology to redesign and improve public service information and transactions.

In June 2012, the *Open Data White Paper* was published³. It set out how the Government is putting data and transparency at the heart of government and public services and making it easier for data publishers to release data in standardised, open formats. The Open Data Principles, contained within the *Open Data White Paper*, and the *Information Principles for the UK Public Sector*⁴ have become a fundamental part of the process of government data publication. Public data will be published using open standards, and data from different departments about the same subject will be published in the same, standard formats and with the same definitions.

The Open Standards Principles provide a foundation on which to select and implement open standards to support open data, the IT and digital strategies.

1 Central government departments, their agencies, non-departmental public bodies (NDPBs) and any other bodies for which they are responsible.

2 Government ICT Strategy: <http://www.cabinetoffice.gov.uk/content/government-ict-strategy>

3 Open Data White Paper: Unleashing the Potential: <http://www.cabinetoffice.gov.uk/resource-library/open-data-white-paper-unleashing-potential>

4 Information Principles for the UK Public Sector:
http://www.cabinetoffice.gov.uk/sites/default/files/resources/Information_Principles_UK_Public_Sector_final.pdf

Scope

This policy and its principles refer to the Government in its roles as a purchaser of IT and to services delivered by, for, or on behalf of central government departments, their agencies, non-departmental public bodies (NDPBs) and any other bodies for which they are responsible.

We recognise, however, that most public bodies deliver services through IT enabled projects, many of which need to work across organisational boundaries.

Consequently whilst this policy focusses on central government, we shall work to promote the open standards principles for software interoperability, data and document formats with all public bodies in the UK. Local government, the wider public sector and the Devolved Administrations are encouraged to adopt the principles to deliver wider benefits.

These principles relate to open standards for software interoperability, data and document formats as depicted in figure 1.

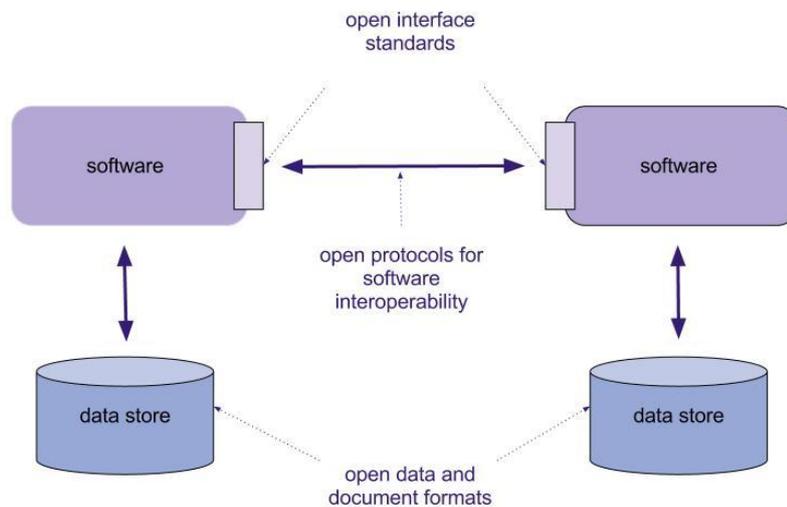


Figure 1 - Diagram illustrating the technical scope of the Open Standards Principles for software interoperability, data and document formats

These standards enable software to interoperate through open protocols and allow the exchange of data between data stores and software through open data and document formats. Standards for internal processing within hardware (including telecommunications hardware), which are not relevant to external interfaces, are out of scope.

This policy describes principles for the selection and specification of open standards which can be implemented in both open source and proprietary software. For information on the Government's open source policy see the Cabinet Office Open Source Procurement Toolkit⁵.

Future policy development

The open standards policy will be reviewed in 2014 and may be updated to account for technology changes or lessons learned from implementation. Associated action plans and standards selection activity will be continually updated.

What open standards help to deliver

By implementing the Open Standards Principles for software interoperability, data and document formats, government bodies are supporting the delivery of:

- A level playing field for open source and proprietary software providers competing for government IT contracts
- Improved flexibility and ability for government to cooperate with other bodies, citizens and businesses
- More sustainable cost in government IT projects

⁵ Open Source Procurement Toolkit: <https://update.cabinetoffice.gov.uk/resource-library/open-source-procurement-toolkit>

Open Standards Principles

These principles are the foundation for the specification of standards for software interoperability, data and document formats in government IT:

- 1. We place the needs of our users at the heart of our standards choices**
- 2. Our selected open standards will enable suppliers to compete on a level playing field**
- 3. Our standards choices support flexibility and change**
- 4. We adopt open standards that support sustainable cost**
- 5. Our decisions on standards selection are well informed**
- 6. We select open standards using fair and transparent processes**
- 7. We are fair and transparent in the specification and implementation of open standards**

Principle 1: We place the needs of our users at the heart of our standards choices

Statement

Government IT specifications are based on user needs, expressed in terms of capabilities with associated open standards for software interoperability, data and document formats.

Rationale

At present, the data gathered by the public sector is not always readily accessible. A lack of common standards is a barrier that can make it difficult for users to scrutinise activity or generate added value. The *Open Data White Paper*, published in 2012, sets out the Government's approach to strengthening data usability.⁶

Citizens, businesses and delivery partners must be able to interact with the Government, exchanging appropriately formatted information/data using the software package of their choice. They must not have costs imposed upon them, or be digitally excluded by the IT choices which the Government makes, beyond those which may reasonably be associated with accessing digitally provided services (i.e. internet access).

The Government needs to share appropriate information and data across and beyond government boundaries to provide efficient services to citizens, businesses and delivery partners. This level of interoperability may require technical, semantic, legal and organisational agreements. In some cases these services may need to work across European or international borders.

Selecting open standards for software interoperability, data and document formats in government IT specifications removes the potential for unintended barriers to digital participation.

⁶ Open Data White Paper: <http://www.cabinetoffice.gov.uk/resource-library/open-data-white-paper-unleashing-potential>

Implications

- The product choice made by a government body must not force other users, delivery partners or government bodies, to buy the same product e.g. web-based applications must work equally well with a range of standards-compliant browsers, irrespective of operating system, and not tie the user to a single browser or desktop solution.
- Government bodies must not impose undue cost on citizens and businesses due to the standards choices made in government IT specifications.
- Government bodies must be clear about the user need and functional outcome for a standards-based solution in specifications so that suppliers can meet these needs. Government bodies must not specify particular brands or products.
- User focussed challenges should be used to identify pan-government standards based solutions for government IT, through the Standards Hub⁷.

⁷ The Standards Hub: <http://standards.data.gov.uk> is in the early stages of development and is being modified following the outcome of the open standards consultation.

Principle 2: Our selected open standards will enable suppliers to compete on a level playing field

Statement

Open standards are able to be implemented by a diverse range of suppliers. In selecting open standards for government IT specifications, the Government removes barriers to competition, such as lock-in.

Rationale

The Government's procurement choices have resulted in a lack of diversity in existing government IT contracts. As a purchaser of IT, this restricts our options and threatens value for money.

Expressing user needs in terms of required capabilities, which are in turn based on open standards, helps government bodies to ensure that better choices are made for service delivery through IT specifications. It also means that there is no unintentional lock-in built into government IT.

European procurement law requires that technical specifications must allow solutions to meet the required functionality by alternative means if a tender satisfies the requirements of those specifications in an equivalent manner. They must allow equal access to suppliers, while not creating unjustifiable obstacles for opening up public procurement to competition.

Open standards for software interoperability data and document formats, which may be implemented in both open source and proprietary solutions, provide an environment that is agnostic and plural with regard to technology, suppliers and commercial arrangements. They also enable the breaking down of large IT contracts into smaller components, supporting the Government's IT strategy presumption against contracts over £100m.

Implications

- When specifying IT requirements for software interoperability, data and document formats, government bodies must request that open standards adhering to the definition described in this policy⁸ are adopted, subject to the principle of equivalence⁹.
- Whether they are designed and built in-house or outsourced, government bodies must require solutions that comply with open standards, for software interoperability, data and document formats, where they exist and meet functional needs, unless there is a robust and transparent reason why this is inappropriate.
- Frameworks for government IT procurements, where applicable, must specify that open standards for software interoperability, data and document formats should be implemented, subject to the principle of equivalence, unless there is a clear business need why an open standard is inappropriate and an exemption has been agreed.
- When specifying IT standards, government bodies must ensure that they are compliant with European Regulations.
- Cabinet Office shall provide guidance to government bodies on the process for requesting an exemption to the open standards policy.

⁸ A definition of open standards, in the context of this policy, is included in the Glossary.

⁹ Specifications/standards in IT procurements must comply with Regulation 9 of the Public Contracts Regulations 2006 <http://www.legislation.gov.uk/ukksi/2006/5/regulation/9/made> - clause 6 refers to the principle of equivalence. Note that in the context of Regulation 9, British standards are those maintained by British Standards Organisations: British Standards Institute; British Electrotechnical Committee.

Principle 3: Our standards choices support flexibility and change

Statement

The Government's IT and data and the standards upon which they are built, are enablers for change, giving services the freedom to evolve according to changing user needs, expectations and technology innovation.

Rationale

Flexible IT, built on open standards-based components, enables interoperability and compatibility between existing and new systems or solutions, or transferability of data and information between old and new systems. Standardised data accompanied by open data formats also facilitate re-use.

Full interoperability requires organisation and legal alignment, as well as semantic and technical agreements. For government bodies, a business, information and technical framework, describing the concepts and points of interchange, will be developed to provide the organisational, technical and semantic context in which the open standards operate.

Smaller, component-based IT projects provide a flexible design to allow choice and enable an evolution of the Government's IT estate, rather than costly big bang changes. This reduces the risk of lock-in to suppliers, software, service and support, or to old and inefficient IT.

Information and data shared appropriately across organisational boundaries without loss of integrity, reduces the need to hold duplicate data and supports efficient service delivery. The opportunities for exploiting information greatly increase when it is made available in standardised and linkable forms as described in [Principle 4 of the Public Sector Information Principles](#). Making data and APIs available allows others to produce alternative, innovative views of government data and access to government services.

By being more innovative on small-scale, low risk IT projects, the Government can deliver innovative solutions. For larger scale, more high risk government IT projects, implementing mature open standards with a broad market support provides a stable infrastructure on which to build.

Responsive and flexible IT requires skilled professionals from a range of disciplines to be involved in the specification, procurement and delivery of solutions. The

publication of the *Civil Service Reform Plan* (June 2012) reinforced the role of Professions in driving change, building capability and by strengthening skills, deploying talent and improving organisational performance across the Civil Service.

Implications

- The Government's common IT infrastructure projects shall publish operational challenges that standards may help to address on the [Standards Hub](#). These should seek proposals for organisation, legal, semantic and technical aspects of interoperability within a specific context.
- The Standards Hub process should request proposals and result in adopted open standards or open standards profiles for use in a specific government IT context.
- Each operational challenge and its resultant adopted standard(s) must have a senior level government sponsor (a Senior Responsible Owner) to identify the business purpose and drive implementation.
- The Government shall define a framework to enable IT projects to describe the boundaries at which software interoperability, data and document formats need to interoperate.
- Respecting data protection, privacy and security requirements, information and data must be shareable across government IT systems in line with the [Information Principles for the UK Public Sector](#).
- Advised by the Senior Responsible Owners (SROs) for adopted standards, a central open standards secretariat shall maintain a pipeline to inform the review of adopted standards through the Standards Hub process.
- Subject matter experts, with implementation experience in government bodies, should participate in the committees of standardisation bodies for software interoperability, data and document formats.
- Government bodies should expose application programming interfaces (APIs) for its services to enable value-added services to be built on government information and data.
- Procurement, project management, information and IT professionals in government bodies must have the skills to make appropriate choices in IT specifications and bid assessments, in line with the Open Standards Principles. Training and guidance should be offered through partnerships with established profession and skills development networks.

Principle 4: We adopt open standards that support sustainable cost

Statement

Decisions are based on the most economical solution for the public sector as a whole and costs are sustainable.

Rationale

The Government has implemented IT spending controls to ensure that it spends taxpayers' money more carefully and avoids unnecessary investment.

Total cost of ownership calculations for software often consider the exit and migration costs as part of the cost of the new solution, when in fact this may in part represent the hidden cost of lock-in to an existing solution.

Greater standardisation enables sharing and reuse of IT solutions and components across government organisations. It reduces complexity and the need for bespoke integration between non-standardised solutions.

Value for money is achieved through avoidance of lock-in and providing a level playing field for suppliers to compete for government IT contracts, coupled with sustained competitive tension after the point of purchase.

Short-term financial savings based only on cost could risk longer-term lock-in and are not necessarily the most cost-effective in terms of whole-life or when broader cross-government working or re-use is considered.

Implications

- Where there is an economic and operational benefit for government as a whole, a compulsory¹⁰ open standard (or open standards) for software interoperability, data or document formats shall be identified through the Standards Hub process.

¹⁰ Compulsory open standards must be specified by government bodies unless an exemption is agreed through a Cabinet Office defined comply or explain process.

- The Standards Hub process must make an economic appraisal (including analysis of costs, a value for money proposal and statement) when recommending an open standard or standards-based profile to the Open Standards Board for compulsory use in government IT.
- For all new government IT expenditure (for new systems or extensions to existing systems), government bodies must specify compulsory open standards (or open standards profiles) for use within common government contexts¹¹. This may be subject to exceptional case-by-case exemption if agreed in advance by the Government's Senior Responsible Owner (SRO) for open standards (or through Departmental Accounting Officer procedures for cases below the Cabinet Office spend controls threshold for IT).
- The Senior Responsible Owner (SRO) for open standards in government IT must agree all exemptions to the open standards policy in specifications for projects above the spend controls threshold, through the existing IT spend controls process.
- The Departmental Accounting Officer in a government body must be accountable for approval of any exception to the open standards policy in specifications for projects below the Cabinet Office IT spend controls threshold.
- Government bodies must perform an economic appraisal for each request for an exemption as part of a comply or explain process.
- For government bodies that are identified as not adhering to the Open Standards Principles (e.g. through transparent reporting or spend controls cases), Cabinet Office may consider lowering the threshold for IT spend controls until alignment is demonstrated.
- As part of examining the total cost of ownership of a government IT solution, the costs of exit for a component should be estimated at the start of implementation. As unlocking costs are identified, these must be associated with the incumbent supplier/system and not be associated with cost of new IT projects.
- For existing systems that are not being modified, these should be considered as legacy and should not be extended. Transition to open standards for software interoperability, data and document formats must be considered by government

¹¹ Subject to the principle of equivalence.

bodies within exit management plans, in accordance with the timescales for the refresh lifecycle of the existing technology.

- In preparation for any technical refresh projects, or in exceptional circumstances, where extensions to IT contracts or to legacy solutions have been agreed, government bodies must formulate a pragmatic exit management strategy. These must describe publicly the existing standards used together with the transition to open standards and compulsory open standards. Transition should take place within a specified timescale (agreed as part of the Standards Hub process).
- Newly developed Frameworks competed by the Government Procurement Service (GPS), which include lots pertinent to software interoperability, data and document formats, should be aligned with the Open Standards Principles.

Principle 5: Our decisions about standards selection are well informed

Statement

Effective selection of standards for government IT specifications is a result of pragmatic and informed decision making, taking the consequences for citizens, users and government finances into account.

Rationale

Open standards evolve and updated versions or entirely new standards develop in response to technology innovation. There is a risk that selecting particular standards may prove costly in the long run if:

- A standard that is selected is not compatible with other government systems
- The same open standard is not interoperable across different implementations in government
- The standard is not supported by the market, either in the short or longer term

In some circumstances, open standards do not exist for a particular function, may not meet the identified need, or an alternative solution may be proposed by a supplier through an open procurement process.

Alternative standards may therefore need to be evaluated to meet user and service delivery needs through government IT. However, the potential variance across implementations has to be taken into account as this may cause interoperability problems across government boundaries.

In the UK, appropriate legal and security constraints must be considered in order to share information and data across and beyond government boundaries. In international and pan-European projects, government bodies also need to interoperate according to agreements made with delivery partners.

A rigorous and transparent selection process is needed for the assessment of compulsory open standards for software interoperability, data and document formats in government IT, before they are adopted. This should have defined criteria and an appropriate governance structure. Government bodies need to be assured that the proposed compulsory open standards will achieve the required outcomes and keep pace with technology and market changes.

Professionals in government bodies and those scrutinising projects require the knowledge and skills necessary to assess standards for inclusion in IT specifications.

Implications

- Challenges published on the Standards Hub must describe specific operational requirements that standards in government IT may help to solve.
- Cabinet Office, advised by an Open Standards Board¹², shall determine the compulsory open standards for adoption by government bodies in government IT, using the Standards Hub process.¹³
- Where necessary, profiles of open standards for software interoperability, data or document formats in government IT should be agreed to ensure interoperability across different implementations.
- Government bodies should engage in the Standards Hub process. Subject matter experts outside of government bodies may engage in the Standards Hub process.
- The selection criteria for compulsory open standards in government IT shall be agreed by the Open Standards Board and be based on the output of the European Common Assessment Methodology for Standards Selection (CAMSS). It shall be published on the Standards Hub.
- The selection criteria for compulsory open standards in government IT must consider security and legal requirements; user and operational needs; context; economic efficiency; interoperability; market support; potential for lock-in; the criteria for open standards and maturity. Only open standards that are considered to be mature should be considered for compulsory adoption.
- All selected standards should have a review period identified during the selection process and be based on risk. Earlier reviews should be initiated where there are new developments, for example in technology.

¹² The Open Standards Board membership will be selected from a group of industry, professional, developer and academic volunteers who have demonstrated implementation, standards setting or strategic leadership in this field. Volunteer expert advisers will also be selected to advise the Board on specific subject matters. The chair of this advisory board will be the Government's senior responsible owner for open standards. The Board will be supported by panels of data and technology experts drawn from within and outside of government.

¹³ The Standards Hub process will be defined and proposed to the Open Standards Board for ratification.

- The open standards SRO, advised by the Open Standards Board (OSB), shall ensure that recommendations from the Standards Hub process are implementable and supported by the market.
- The Government may develop or encourage the development of open reference implementations for the standards being considered, where these do not already exist, in association with suppliers, voluntary groups or academia.
- Government bodies must fulfil international obligations and regulations relating to agreed standards for cross-border interoperability, whether or not these comply with the Open Standards Principles and definition.
- Where possible, government bodies shall encourage use of open standards for software interoperability, data and document formats in international government IT projects.
- Officials in government bodies in IT project scrutiny and oversight roles and those involved in creating IT specifications should undertake training in standards selection.
- Pipeline¹⁴ guidance shall be provided so that government bodies understand their responsibilities relating to open standards in IT specifications for projects being considered under the spend controls process.
- The selection criteria for standards chosen by government bodies for software interoperability, data and document formats in government IT must consider each of the criteria the Cabinet Office identifies in the selection criteria for compulsory open standards. In addition, government bodies requesting an exemption to compulsory open standards must also provide an analysis of the impact that their standards choice may have, according to specified impact criteria (e.g. interconnection with new cross-government solutions, opportunities for suppliers in a level playing field).
- Migration to a new open standard or newer versions of compulsory standards in government IT shall be considered through the Standards Hub process, on a case by case basis, taking into account the costs, timescale and impact of migration on existing systems.

¹⁴ Under the IT spend controls process operated by Cabinet Office, a pipeline of upcoming IT procurement is maintained for government bodies to enable early engagement.

- Guidance and training shall be provided on issues relating to open standards in government IT for professionals in project management, procurement, information and technical roles.
- If a standard that is not an open standard is to be specified by a government body, for the purposes of software interoperability, data or document formats, it is required that a pragmatic and informed decision making process must be have been followed.
- Government bodies may support or participate in the committees of standardisation bodies, fora and consortia as subject matter experts.
- Government bodies must be compliant with current government security policies and standards.

Principle 6: We select open standards using fair and transparent processes

Statement

The selection and adoption process for open standards and open standards based profiles in government IT is transparent, providing the opportunity for challenge and allowing engagement with subject matter experts.

Rationale

Transparent engagement and selection processes for standards for use in government IT opens the door to a vast wealth of implementation and user-based knowledge that helps the Government to reach the right decision.

Transparency allows government bodies to have a two-way conversation with the users and suppliers of government services and the experts who develop and implement standards.

Implications

- The Standards Hub process must be transparent and collaborative to support continuous engagement and implementation improvements.
- Meetings and discussions relating to the consideration of proposals for standards adoption must be published through the Standards Hub and public engagement must be supported e.g. through a comments facility.
- A transparent feedback facility must be provided through the Standards Hub to allow implementers and subject matter experts to report issues with open standards that have been selected as compulsory for use in government IT.

Principle 7: We are fair and transparent in the specification and implementation of open standards

Statement

Government IT procurement, specifications, implementation plans and agreed exemptions from the open standards policy are transparent, providing the opportunity for challenge.

Rationale

Holding the government to account in the decisions we make ensures that we are fair - for example when selecting open standards or in an IT procurement process.

Potential suppliers need a way to engage with government if inappropriate specifications are advertised that distort a level playing field.

Standardised IT solutions sometimes operate well at a local level but do not interoperate across boundaries, for example when extensions or complex implementation profiles are adopted. This can lead to additional cost and reduces the benefits of implementing a standardised approach.

Implications

- Government bodies must provide publicly available information on their alignment with compulsory open standards for software interoperability, data and document formats. Implementation plans for transition to the open standards or open standard profiles, within a specific timeline, must be published.
- All agreed exemptions to the open standards policy must be published, detailing the standards specified and the reasons for exemption, unless there are national security considerations which prevent this.
- Other than for reasons of national security, essential government extensions or variations to open standards for software interoperability, data or document formats must themselves be made available under an open licence and be publicly shared to enable others to build upon them.
- Exit management strategies developed as part of exceptional extensions to IT contracts or legacy solutions, or in preparation for a technical refresh project, must be published, describing the existing standards used and the transition to open standards and compulsory open standards, unless these are classified for security reasons.

- The tender process for IT contracts must be transparent and documentation must be published online through the Contracts Finder service.
- Complaints relating to the specification of standards during the procurement and tender process should be made through existing channels such as the Cabinet Office Mystery Shopper Scheme¹⁵.

¹⁵ Cabinet Office Mystery Shopper Scheme: <http://www.cabinetoffice.gov.uk/content/cabinet-office-mystery-shopper-scheme>

Sources of further information

Standards Hub

<http://standards.data.gov.uk/>

Information Principles for the UK Public Sector

<http://www.nationalarchives.gov.uk/information-management/projects-and-work/information-principles.htm>

Open Data White Paper: Unleashing the Potential

<http://www.cabinetoffice.gov.uk/resource-library/open-data-white-paper-unleashing-potential>

Regulation 9 of the Public Contracts Regulations 2006

<http://www.legislation.gov.uk/uksi/2006/5/regulation/9/made>

*Regulation of the European Parliament and of the Council on European Standardisation, PE-COS 32/12*¹⁶

<http://register.consilium.europa.eu/pdf/en/12/pe00/pe00032.en12.pdf>

Guidelines for public procurement of ICT systems - part of [Action 23 of the Digital Agenda](#), in the European Commission

http://cordis.europa.eu/fp7/ict/ssai/study-action23_en.html

Follow us on Twitter:

<http://twitter.com>

@IT_Reform

@cabinetofficeUK

¹⁶ Regulation of the European Parliament and of the Council on European Standardisation, PE-COS 32/12:

<http://register.consilium.europa.eu/pdf/en/12/pe00/pe00032.en12.pdf> The regulation will enter into force 20 days after its publication in the EU Official Journal and will apply directly in all EU member states from 1 January 2013.

Annex 1: Definitions and glossary

1. Requirement levels

In line with [RFC 2119](#)¹⁷:

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as follows:

1. MUST - This word, or the terms "REQUIRED" or "SHALL", mean that the definition is an absolute requirement.
2. MUST NOT - This phrase, or the phrase "SHALL NOT", mean that the definition is an absolute prohibition.
3. SHOULD - This word, or the adjective "RECOMMENDED", mean that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
4. SHOULD NOT - This phrase, or the phrase "NOT RECOMMENDED" mean that there may exist valid reasons in particular circumstances when the particular behaviour is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behaviour described with this label.
5. MAY - This word, or the adjective "OPTIONAL", mean that an item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because the vendor feels that it enhances the product while another vendor may omit the same item. An implementation which does not include a particular option MUST be prepared to interoperate with another implementation which does include the option, though perhaps with reduced functionality. In the

¹⁷ RFC 2119: <http://www.ietf.org/rfc/rfc2119.txt>

same vein an implementation which does include a particular option MUST be prepared to interoperate with another implementation which does not include the option (except, of course, for the feature the option provides.)

2. Open standard - definition

Open standards for software interoperability, data and document formats, which exhibit all of the following criteria, are considered consistent with this policy:

Collaboration - the standard is maintained through a collaborative decision-making process that is consensus based and independent of any individual supplier. Involvement in the development and maintenance of the standard is accessible to all interested parties.

Transparency - the decision-making process is transparent and a publicly accessible review by subject matter experts is part of the process.

Due process - the standard is adopted by a specification or standardisation organisation, or a forum or consortium¹⁸ with a feedback and ratification process to ensure quality.

Fair access - the standard is published, thoroughly documented and publicly available at zero or low cost¹⁹.

Market support - other than in the context of creating innovative solutions, the standard is mature, supported by the market and demonstrates platform, application and vendor independence.

Rights - rights essential to implementation of the standard, and for interfacing with other implementations which have adopted that same standard, are licensed on a

¹⁸ The European Regulation enabling specification of fora or consortia standards will enter into force 20 days after its publication in the EU Official Journal and will apply directly in all EU member states from 1 January 2013 see: <http://register.consilium.europa.eu/pdf/en/12/pe00/pe00032.en12.pdf>

¹⁹ Zero cost is preferred but this should be considered on a case by case basis as part of the selection process. Cost should not be prohibitive or likely to cause a barrier to a level playing field.

royalty free basis that is compatible with both open source²⁰ and proprietary licensed solutions. These rights should be irrevocable unless there is a breach of licence conditions.

3. Glossary

API - Application Programming Interface

Compulsory open standards - standards which must be specified by government bodies, subject to the principle of equivalence, unless an exemption is agreed under a comply or explain process.

Data format - a specification which defines how data is structured in a file.

Document format - a file format for storing and sharing documents.

Government bodies - in the context of this document, these are central government departments, their agencies, non-departmental public bodies (NDPBs) and any other bodies for which they are responsible.

Interoperability - the ability of information technology systems, as well as the business processes they support, to exchange data and enable the sharing of information and knowledge.

Level playing field - an environment in government procurement in which every tender proposal is considered on its own merit and there are no advantages in the procurement process for incumbent suppliers, or for suppliers of a particular size.

Lock-in - a lack of interoperability and compatibility between existing and new systems or solutions, or from a lack of transferability of data and information between old and new systems which restricts choice of supplier, product or solution.

Open source software – software which guarantees the right to access and modify the source code, and to use, reuse and redistribute the software, with no royalty or

²⁰ For a list of open source licences approved by the Open Source Initiative via their License Review Process see <http://opensource.org/licenses/alphabetical>

other costs. In some cases, there can be an obligation to share code improvements with the wider community.

Open standard - many definitions of this term exist. For the purpose of software interoperability, data and document formats used by government bodies, the definition is provided in Annex 1, section 2 above.

Plugfest - an event during which interoperability is tested by physically connecting networked devices.

Procurement framework - an agreement between contracting authorities and suppliers that establishes the terms governing contracts to be awarded during a given period.

Profiles - profiles define subsets or combinations of standards that have a specific scope and deliver a defined function whilst conforming to the related standards.

Reference architecture – a framework that describes the organisation and components of business, information and technology systems and how they relate.

Senior Responsible Owner (SRO) - the single individual with overall responsibility for ensuring that a project or programme meets its objectives and delivers the projected benefits.

Software interoperability - the capability to exchange data via a common set of formats, to read and write the same file formats, and to use the same software protocols, while maintaining functionality between different software implementations.

Spend controls - a Cabinet Office process and measures for reviewing and authorising requests from government bodies to spend money on IT-enabled projects, within a specified threshold.

Standard – codified knowledge providing specifications for interfaces between software, systems or the documents and data that pass between them.

© Crown Copyright 2012

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence.

To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/>

or e-mail: psi@nationalarchives.gsi.gov.uk. Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Any enquiries regarding this document should be sent to us at Cabinet Office, 1 Horse Guards Road, London SW1A 2HQ. This document is also available from our website at <http://www.cabinet-office.gov.uk>
