



**CabinetOffice**

  
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# **All about Open Source**

An Introduction to Open Source Software for Government IT

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*This document is intended to be used as part of the 'toolkit for procurers' as an introduction to open source software and is aimed at anyone interested in employing open source solutions across Government.*

## **Introduction**

In March 2011 the Government published the HMG ICT Strategy<sup>1</sup> which aims to provide better public services for less cost and will be implemented via 30 actions which are set to revolutionise Government ICT. The Strategy commissioned an action focused on ensuring that there is a level playing field for the evaluation of open source and proprietary software. Open source is part of a wider focus on lowering barriers to participation, including for SMEs, reducing vendor lock in, increasing use of open standards, improving competitive tension, and reducing the overall costs of Government IT.

It is Government policy to consider open source solutions on their merits and according to total lifetime cost of ownership. Government recognises the potential benefits of Open Source Software (OSS) and is committed to increasing the adoption of open source solutions across government, where it offers best value for the taxpayer.

Action 3 in the HMG ICT Strategy specifically details the publication of a toolkit for procurers on best practice for evaluating the use of open source solutions.

'All about Open Source' forms a key part of that toolkit and is designed as an introduction to inform the reader about the basics of open source. Whilst the document is intended to sit alongside the other documents within the toolkit it is not solely aimed at procurement professionals.

This document does not evaluate, recommend or offer judgement on any specific OSS products or any legal risks that may arise. It is a business decision whether to use open source software that should be made on a case by case basis after assessing the options for VfM and the associated benefits and risks of each.

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<sup>1</sup> UK Government ICT Strategy  
<http://www.cabinetoffice.gov.uk/resource-library/uk-government-ict-strategy-resources>

## Open Source in Government

Government is committed to implement more innovative ways of working, and a clear re-use and interoperability agenda including ensuring a level playing field for open source and proprietary software. Recognising the merits of OSS, Government takes the view that where there is no significant overall cost difference between open and non-open source products, open source should be selected on the basis of its additional inherent flexibility.<sup>2</sup>

The increased maturity of open source products and services has made it easier for Government to engage with OSS. However, open source software (OSS) is only slowly gaining traction in Government, particularly when compared with the private sector and other public sectors including some European government sectors.

Relatively low levels of adoption have been attributed to a lack of understanding of the potential benefits of OSS, accompanied by a risk-averse technical and procurement culture, compounded by significant levels of misconceptions about open source security and its services ecosystem.

On the whole contracts are large and encompass a large estate, this has limited the suppliers (and solutions) able to meet the requirements and to some extent has excluded SMEs and open source solutions. Contracts have therefore traditionally been awarded to SIs who have their own set of preferred (and usually proprietary) products. Their existing agreements are with proprietary software houses and existing skills are focused on proprietary products, there is not a culture of actively looking for open source software. There may also be commercial incentives for the incumbent systems integrators to work with a limited set of proprietary software vendors.

Government departments are often locked into these contracts and in most cases feel they have little scope to explore alternative open source solutions for evolving requirements within the business.

A change in the mindset is required for those involved in writing requirements, including SIs, or undertaking procurement or projects. The challenge is to enable both open source and proprietary solutions to be proposed, compared and fairly assessed on merit.

A change is required in (1) the bundling of risk and calculation of risk appetite by the customer, (2) the diversity and competitive tension in the IT supplier market, (3) an improvement in the intelligent customer function.

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<sup>2</sup> As stated in the current open source policy.

# What is Open Source Software?

Open source software is software like any other. However it is distinguished by its license, or terms of use, which guarantees certain freedoms, in contrast to closed proprietary software which restricts these rights. Open source software guarantees the right to access and modify the source code, and to use, reuse and redistribute the software, all with no royalty or other costs. In some cases, there can be an obligation to share improvements with the wider community, thus guaranteeing global benefit.

These, apparently simple guarantees, have powerful implications:

- Encourage reuse
- Enable innovation, flexibility, easier integration
- Drives down price of software to zero
- No vendor or service monopoly means no reason to hide defects and security vulnerabilities
- No single-vendor means diversity of support and services choice, sustained competition is a customer benefit
- No vendor monopoly means no reason to avoid free and open standards
- “Darwinian evolution” improves key software
- Lower barriers to entry, widens participation

In general terms, open source software is licensed under terms which allow the user to practise, the so called “four freedoms”:

1. Use the software without access restrictions, within the terms of the licence applied
2. View the source code
3. Improve and add to the object and source code, within the terms of the licence applied and this may include a term making it mandatory to publish modified code on the community website
4. Distribute the source code.

The Open Source Initiative (OSI) maintains the Open Source Definition (OSD), and is recognised globally as the authority on certifying whether a license is truly open source. There is no reason why any public body would deviate from the OSD and the OSI certifications of true open source licenses.

Whilst there are many open source licenses, the majority of commonly used software uses the same handful of common licenses. This means that the legal and commercial overhead for understanding and managing open source licenses is significantly reduced.

It is common for the open computing community to distinguish between “free” meaning zero-price, and “free” meaning the liberty and guarantees discussed above. To help distinguish the two, the term “libre” is increasingly used for the latter.

## What are Open Standards?

Policy states that the Government will use open standards in its procurement specifications and require solutions to comply with open standards.

Government defines ‘open standards’ as standards which:

- result from and are maintained through an open, independent process
- are approved by a recognised specification or standardisation organisation, for example W3C or ISO or equivalent
- are thoroughly documented and publicly available at zero or low cost
- have intellectual property made irrevocably available on a royalty free basis, and
- as a whole can be implemented and shared under different development approaches and on a number of platforms.<sup>3</sup>

Cabinet Office also mandates that when purchasing software, ICT infrastructure and other ICT goods and services Government departments should wherever possible deploy open standards in their procurement specifications. This is because Government assets should be interoperable and open for re-use in order to maximise return on investment, avoid technological or supplier lock-in, reduce operational risk in ICT projects and provide responsive services for citizens and business. This should also lower barriers to entry for more diverse sources of IT services, including citizens and SMEs.

Work on the strengthening of open standards in Government is ongoing, under Action 22 of the HMG ICT Strategy ‘To allow for greater interoperability, openness and reuse of ICT solutions, the Government will establish a suite of agreed and mandatory open technical standards’.

*See Appendix A for links to further reading on open source.*

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<sup>3</sup> open standards PPN <http://webarchive.nationalarchives.gov.uk/+http://www.cabinetoffice.gov.uk/resource-library/procurement-policy-note-ppn-use-open-standards-when-specifying-ict-requirements>

## Open Source Policy

The current version of the policy was published in 2004 and was restated in 2009 in the 'Open Source, Open Standards and Re-Use: Government Action Plan'.

The restated policy on open source software aimed to ensure maximum value for money for taxpayers. The policy reflected changes to both the open source market and the Government's approach to IT.

The policy set out a requirement for there to be a level playing field for open source software, and encouraged the use of open standards and the re-use of already purchased software. The Action Plan set out the steps needed across Government, and with our IT suppliers, to take advantage of the benefits of open source.

The key points of the Government's policy are set out below:

### Open Source Software

- (1) The Government will actively and fairly consider open source solutions alongside proprietary ones in making procurement decisions,
- (2) Procurement decisions will be made on the basis on the best value for money solution to the business requirement, taking account of total lifetime cost of ownership of the solution, including exit and transition costs, after ensuring that solutions fulfil minimum and essential capability, security, scalability, transferability, support and manageability requirements.
- (3) The Government will expect those putting forward IT solutions to develop where necessary a suitable mix of open source and proprietary products to ensure that the best possible overall solution can be considered.
- (4) Where there is no significant overall cost difference between open and non-open source products, open source will be selected on the basis of its additional inherent flexibility.

*The complete policy can be found in Appendix B*



## **Why doesn't Government mandate the use of open source solutions?**

The UK Government's interpretation of European procurement legislation would deem the mandating of open source as a breach of antitrust law. This rests on the current interpretation of whether open source is a product or a feature. European countries, such as Italy, interpret open source as a feature rather than a product. This means that preference for open source is simply preference for a legal feature of a product and, in stating this preference, no commercial vendor has been inappropriately favoured or disfavoured.

Furthermore, mandating open source would preclude the option of proprietary software from the procurement process. It is yet to be categorically proven that open source software provides better value for money when considering the total cost of ownership. Therefore, Cabinet Office takes the position that it will level the playing field for open source software, allowing departments to select the best value-for-money option.

## Open Source Myths

Whilst the current policy has existed since 2004, evidence suggests there is still relatively little open source software used by Government. There have been various reasons suggested for this, some of which are 'open source myths'.

### Open Source is less secure

False.

A major barrier to the consideration of OSS is the misconception that it inherently brings with it greater risk than proprietary software.

The fact that source code is easily available is perceived as a significant security risk, which has possibly increased wariness of open source across Government departments. Some fear that because the source code is available to all, open source software is inherently less secure and thereby more risky than closed source solutions/options. This is often countered with the "thousand eyes" argument, which suggests the accessibility of code actually promotes early detection of vulnerabilities and encourages fixes that therefore lead to a more secure product. There are advantages and disadvantages for both proprietary products and OSS, both will have vulnerabilities and both may be subject to attack. As with proprietary software, there are good and bad examples of open source software.

Current CESG Guidance<sup>4</sup> takes the view that 'no one particular type of software is inherently more, or less, secure than the other and does not favour one type over the other. Each must be approached on a case-by-case basis.' This means that open source options cannot be excluded from evaluation on the basis of the above security arguments.

A related but prevalent myth is that Departments must only use accredited software products. This is a misunderstanding of the security and accreditation process. Products are not accredited, whole solutions are. Solutions consist of inherently vulnerable software products, configurations, information flows, users, physical and other controls, and mitigations against risks.

CESG does assure a small set of limited functionality products, and these are generally security enforcing products, such as firewalls or cryptographic systems. The vast majority of software products used by Government do not fall into this category. Furthermore, there is no intrinsic reason why these assured products can't be open source.

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<sup>4</sup> Good Practice Guide No.38 'Open Source Software - Exploring the Risk' can be found at the CESG website <https://cesgiap.gsi.gov.uk/ia-policy-portfolio/good-practice-guides.shtml>

## **It is not possible to cost an Open Source Solution**

False.

Open source software can be obtained at zero cost. A user is then free to select and pay for the most appropriate level of support and services. For common enterprise open source software, there is an established market for paid-for support and services, and it is normal for systems integrators to back off their support to these providers.

In some cases it is entirely reasonable to use open source without any support, for example prototyping, and with minimal support, for example trials and pilots. This is a key advantage of open source software.

Departments will be required to undertake a more sophisticated evaluation of the costs of software ownership, which more usefully compares open and closed source software. A Total Cost of Ownership (TCO) model takes into account several factors which affect lifetime costs and cost avoidance, including acquisition, in-life changes, integration, interoperability and open standards, technology lock-in dependency chains, multi-supplier market competition, and exit costs. The practise of simply comparing purchase unit prices does not take into account these additional sources of additional cost and cost avoidance.

A business case, incorporating a TCO comparison, should also assign weights for the alignment to strategic and policy aims. For example, if a solution option lowers barriers to SME engagement then this needs to be reflected in the comparison of options, with an appropriate weight.

*For further reading please refer to Total Cost of Ownership – Things to Consider.*

## **Open Source isn't licensed**

False.

Open source software is defined by its license. However open source licenses are essentially terms of use, and not items to be purchased as can be the case for proprietary software.

Software is property that is protected under copyright law. Open source software is not exempt from this and using OSS brings with it certain obligations. Therefore before downloading and using software applications or source code it is necessary to establish the licence model for open source software.

There are a variety of licence models for open source, where each licence model has specific terms for the use and modification of code. For this reason, it is important to understand both the specifics of the open source licence in question and how the Department intends to use and redistribute any modified OSS.

The most widely known models are:

- a. GPL version 3, and version 2 is still widely used
- b. GNU Lesser General Public Licence (LGPL)
- c. BSD Licence
- d. Mozilla Public Licence (MPL)
- e. Apache Licence

Commercial and legal professionals often expect to find proprietary licenses to cover indemnity against intellectual property infringement, warranties against performance, and accepted or limited liabilities. Open source licenses are not used to cover these issues, which are therefore addressed by service or support contracts.

Many open source licences permit the user to modify OSS for internal use without being obliged to distribute source code to the public. However, if the user chooses to distribute the modified OSS outside the user's organization (e.g., a government user distributes the executable software outside government), then some open source licences ("copyleft" licenses such as the GPL) do require that the recipient of the software can also access the associated modified source code. If the modified software is not distributed outside government, the obligation to share the modified source code is not triggered, which can ease security concerns.

The vast majority of enterprise open source users do not modify source code but simply take packaged software components from suppliers, who provide support and services, just as is the case for proprietary software. This means the "copyleft" obligations are an issue for these users, and any software change issues are managed by the software suppliers.

## **Open Source is just the latest fad**

False

Open source software is not new and has been in commercial use since the mid-1990s. Today it is used by the largest of organisations, running very large scale or critical infrastructures. Open source is also used by organisations for whom security is a priority.

Whilst the term 'open source' was not coined until 1998 some of the concepts behind it have been in existence since the 1980s. For example Richard Stallman's concept of Copyleft as an alternative to Copyright to ensure material could be freely used, copied, examined, adapted and built upon, originated in 1985. In 1991 Linus Torvalds released Linux Kernel as freely modifiable code and within 2 years computers were being sold with Linux pre-installed.

Open source was first investigated by Cabinet Office as early as 2001<sup>5</sup> and as early as 2002 it was considered necessary to have an explicit policy, on the use of OSS within UK Government.

The current version of the policy dates back to 2004, which indicates how long Government has been trying to encourage the implementation of open source solutions where they provide the best value for money.

The policy was restated in 2009 in the 'Open Source, Open Standards and Re-Use: Government Action Plan', in recognition that engagement with and implementation of OSS was not as good/positive as expected. This was refreshed again early 2010<sup>6</sup>.

This was followed by 2 specific open source actions in the HMG ICT Strategy published in March 2011, which set out to ensure/create a 'level playing field' for open source solutions. With Government's increased focus on VfM, common standards, transparency and data transferability it is likely that open source will become more important.

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<sup>5</sup> Cabinet Office Archive

[http://www.cabinetoffice.gov.uk/govtalk/archive/policy\\_documents\\_1\\_of\\_1/open\\_source\\_policy\\_archived\\_docs.aspx](http://www.cabinetoffice.gov.uk/govtalk/archive/policy_documents_1_of_1/open_source_policy_archived_docs.aspx)

<sup>6</sup> <http://www.cabinetoffice.gov.uk/resource-library/open-source-open-standards-and-re-use-government-action-plan>

## Pros and cons of Open Source Solutions

In recent years the software and wider IT marketplace has developed to make open source products more competitive and easier to include in enterprise business solutions. However the suitability of open source is best determined on a case-by-case basis and requires a detailed and well-informed evaluation. A fair assessment needs to be made as to which solution offers the best value for the taxpayer, it is important to bear in mind that there will be pros and cons for any solution.

### Pros of Open Source may include:

1. The acquisition cost, development and implementation contract costs are likely to be lower than for proprietary software. It is less likely that there will be contractually-bound upgrade costs. However, the total cost of ownership over the lifetime of usage must be taken into account
2. Data transferability; with open source code and a move towards open data formats, there are greater opportunities to share data across interoperable platforms
3. Increased opportunities for re use. Because open source is free from per user or per instance costs and there is a guaranteed freedom to use in any way, reuse is enabled.
4. Paying once for development (if at all) and reuse across government where appropriate, therefore offering cost effectiveness.
5. By virtue of their collaborative design, many user-facing open source products are intuitive for the user
6. Potential for fast cycle time of releases and bug fixes; (dependent on whether or not there are people, resources and interest to develop the releases and bug fixes
7. Opportunities for customisation and community innovation within government and the wider public sector, and also citizens, SMEs.
8. Open source licences do not limit or restrict who can use the software, the type of user, or the areas of business in which the software can be used. Therefore, OSS provides a licensing model that enables rapid provisioning of both known and unanticipated users and in new use cases.
9. Open Source solutions are scalable in both directions – upwards and downwards with a reduction in the risk of longer term financial implications. For example, procurers won't have to pay a licence fee on a "per user" or "per box" basis so they are not left with redundant licences
10. Open source software can be operated and maintained by multiple suppliers encouraging competition and providing an opportunity for SMEs to compete in

the government market; which lead to code sharing cultures, better citizen accessibility, and greater control over IT projects. Potential to reduce reliance on particular software developers or suppliers which could encourage competition and reduce commercial barriers to entry and exit for government.

11. Open source software is particularly suitable for rapid prototyping and experimentation, where the ability to “test drive” the software with minimal costs and administrative delays can be important. Proprietary software suppliers may also provide the same through a ‘proof of concept’ phase at minimal or no cost.

### **Cons of Open Source may include:**

1. If the source code is made available to the wider community, it is also vulnerable to threats from the hacker community. This may be mitigated by separating the development code from the version used in the final solution and/or using a test environment for updates before implementation
2. Support and maintenance costs may outweigh those of the proprietary package and include ‘hidden’ commitments. A full assessment of the total cost of ownership along with the proposed supplier will help to mitigate this risk
3. Intellectual property rights – as code is modified and adapted by departments, there may be legal risks around whether the code retains its open source status and who owns the intellectual property rights of the modified code; and
4. Those considering using and developing open source ‘in-house’ must ensure that they have the right level of expertise to manage it effectively.
5. Large SIs may be reluctant to propose open source solutions which may generate less revenue and not be aligned with their product or skill set
6. Open source solutions may require additional development to enable integration with an existing proprietary environment. Some open source solutions may never work well with established proprietary products
7. Staff are traditionally trained (and practised) in using proprietary software programs, the introduction of new programs/software may require staff retraining in order to enable them to use open source solutions.

## FAQs

### **Q: Why are we talking about open source software?**

A: It is Government Policy to 'actively and fairly consider' open source solutions on the basis of the best value for money solution to the business requirement in order to spend money better. It is hoped this will help create a fairer and more competitive marketplace, with greater direct opportunities for small and medium enterprises (SMEs). Government is committed to creating a level playing field for the use of innovative ICT solutions including open source software wherever possible, to prevent supplier lock-in and deliver improved value for money, see Action 3 of the Government ICT Strategy published in March 2011.

### **Q: What is open source software?**

A: OSS is software for which the rights to source code and other rights available to copyright holders are openly available in the public domain under the terms of a license. The licence usually permits users to collaboratively use, change and improve software to redistribute it.

Open source software is software whose license guarantees (1) freedom to access and modify to its source code, (2) freedom to redistribute and reuse the software, (3) freedom to use the software in any way you want, but also in some circumstances (4) an obligation to share improvements built on the work of others.

### **Q: Is having the ability to view and change the source code really valuable/important for many people?**

A: Yes, whilst it's true that few people need direct access to source code (as this is the realm of developers and code reviewers) it is important that the customer/business has control over the technology that they are building their business around.

In the proprietary software business the customer has no control over this and is at the mercy of the supplier, for example if the supplier overcharges the business or refuses to fix a problem, or implement a change the business has no choice they are stuck with the supplier. This can result in high costs, low reliability and frustration. However, if the customer/business has control over the source code they can take their business to any number of other service providers.

### **Q: Do I have to use an open source solution?**

A: No, there is no current intention in the UK to mandate the use of Open Source or do anything other than give it fair and equal consideration as part of a procurement exercise. However, you must consider open source solutions (if they are available) and evaluate them fairly following appropriate guidance. Any decision should have been made on the basis of VfM and you should implement the solution that provides the best VfM. If both solutions are deemed to be of equal merit then Government Policy states that you should select the open source solution.



**Q: Does open source come with any licensing at all?**

A: Yes. Software is property that is protected under copyright law. Open source software is not exempt from this and using OSS brings with it certain obligations. However not all licences are the same and you should carefully check to establish what you and your organisation are permitted to do with the software, including obligations to publish any changes back into the community.

For more information on Open Source Software Licensing please see:  
[http://www.jisc.ac.uk/uploaded\\_documents/Open\\_Source\\_FAQ.pdf](http://www.jisc.ac.uk/uploaded_documents/Open_Source_FAQ.pdf)

**Q: What security implications do I need to consider regarding open source solutions?**

A: The security implications are the same as for proprietary software. 'No one particular type of software is inherently more, or less, secure than the other and does not favour one type over the other. Each must be approached on a case-by-case basis'.

**Q: How can we use/get open source software? How do I do it?**

A: Government Policy is that there must be a level playing field for open source software/solutions. Please refer other documents within the toolkit which includes the ICT Advice Note - Procurement of Open Source.

**Q: Is proprietary software fundamentally better supported than open source software?**

A: Not necessarily, versions of proprietary software go out of date and are no longer supported after a new version comes out. Depends what sort of support package you chose to buy with open source and the skills and technical ability of your in house team.

**Q: Are there enough open source software solutions available to merit consideration?**

Yes, there are open source alternatives to most big proprietary software products i.e. open office, please see Open Source Options paper, part of the toolkit.

**Q: Is it just a fad? Is it just the latest thing/buzz word?**

A: No, open source software has been in commercial use since the mid-1990s and was first investigated by Cabinet Office in 2001. The first Government open source software policy was published in 2002. Updated policy 2004 restated in 2009 in action plan and refreshed again in 2010.

**Q: If my department employs open source solutions will everyone be able to access and change the source code?**

A: It would depend on the licence of each particular piece of Open Source software but in theory you are correct, the source code would always be open for modification

by anyone. At the point of acquisition (by govt) the code would be open for anyone (with the necessary rights/clearance) to change it. But this is not how it would be rolled out across the office to users across government.

We would expect that within a department there would be some capability (i.e. a dedicated in-house team or SI etc) for the modification of code but not across the office – we would not expect each and every individual to have access to and the ability to modify code. This would not be contrary to the OS licence concept.

**Q: Is the expectation that users of agreed Open Source software can amend the code as required?**

A: It is unlikely we (government departments) would allow staff to start modifying code, but under certain circumstances it might be appropriate i.e. via an SI or a 3rd party development and support contract or through some dedicated in-house capability such as exists within DECC. Controls would vary depending on who was modifying code and under what support agreements but government would be bound by whatever variation of Open Source license was applicable to the software

**Q: What is 'copyleft'?**

A: Copyleft is a form of licensing and can be used to maintain copyright conditions for works such as computer software, documents and art. Copyleft is a play on the word copyright and refers to licenses that allow derivative works but require them to use the same license as the original work.

In general, copyright law is used by an author to prohibit others from reproducing, adapting, or distributing copies of the author's work. In contrast, under copyleft, an author may give every person who receives a copy of a work permission to reproduce, adapt or distribute it and require that any resulting copies or adaptations are also bound by the same licensing agreement.

For example, if you write some software and release it under the GNU General Public License (a widely-used copyleft license), and then someone else modifies that software and distributes their modified version, the modified version must be licensed under the GNU GPL too — including any new code written specifically to go into the modified version. Both the original and the new work are Open Source; the copyleft license simply ensures that property is perpetuated to all downstream derivatives.

Most copyleft licenses are Open Source, but not all Open Source licenses are copyleft. When an Open Source license is *not* copyleft, that means software released under that license can be used as part of programs distributed under other licenses, including proprietary (non-open-source) licenses.

Copyleft provisions apply only to actual derivatives, that is, cases where an existing copylefted work was modified. Merely distributing a copyleft work alongside a non-copyleft work does not cause the latter to fall under the copyleft terms.

Text courtesy of the Open Source Initiative site.

**Q: How do businesses make money from open source?**

A: Businesses can sell services based on the code (i.e., sell your time), sell warranties and other assurances, sell customization and maintenance work, license the trademark, etc. The only kind of profit strategy that is incompatible with Open Source is monopoly-based sales, also known as "royalties".

Text courtesy of the Open Source Initiative site.

**Q: Is there an Open Source software framework?**

A: No, UK Government is not currently producing a framework (an approved list from whom purchases can be made) solely for Open Source suppliers. To be in line with our own policy any new frameworks for software procurement will be open to suppliers of both open and closed products. There is no approved or pre-selected list of Open Source Software, although it is expected that there will be some OS products included on the Cloud Store.

**Q: What Open Source Solutions can I use?**

A: In theory any/all Open Source software would be available for your department to use, as long as an options analysis had been undertaken and the particular Open Source solution/option could be shown to meet your requirements and provide the best VfM to the dept.

Please refer to the Open Source Options document for a selection of Open Source solutions that you may wish to consider when undertaking IT procurement, however please note the suppliers included on the list are not pre-approved or endorsed but are rather a sample of what is available.

**Q: Will I be able to source and download Open Source solutions for use on my computer.**

A: We would never expect individual users to be able to download or use any software/solutions (Open Source or otherwise) that differ from the standard provided by their particular government dept. If users wanted to download Open Source software at home and modify it then that is different but in the office only authorised developers would be able to do so.

**Q: Where can I find open source?**

A: Please refer to the Open Source Options document in the toolkit for some examples of Open Source software/solutions, however it is important to note that the software/solutions included in the document are in no way approved or endorsed by the Home Office.

Please also see the Sprint ii contract which is a framework for the supply of:

- Hardware
- Software
- Infrastructure (including Networks & Telecommunications)

- IT Services

Sprint ii contract: <http://gps.cabinetoffice.gov.uk/contracts/rm720>

The software section includes (but is not limited to) software applications including Open Source; licences; software upgrades; software-related services including support, development, maintenance, implementation, reproduction, configuration and hosted services; Software as a service (SaaS); data services; ESCROW and managed services.

## **APPENDIX A: FURTHER INFORMATION**

### **Further information**

*This information is provided for recommended further reading but the list is provided without an endorsement by Cabinet Office or the Home Office.*

#### **Open Source Academy (OSA)**

<http://www.opensourceacademy.co.uk>

Set up to encourage the use of OSS by local authorities in the UK and ran from May 2005 to March 2006. Since then the website continues to be maintained but no new material is uploaded.

#### **Open Forum Europe (OFE)**

<http://www.openforumeurope.org>

A not for profit, independent organisation promoting OSS in business and government. OFE is supported by major IT suppliers and works closely with the European Commission and National Governments.

#### **Open Source Schools (OSS)**

<http://opensourceschools.org.uk>

A two year project supported by Becta and aims to help schools share information about open source software in schools.

#### **OSS Watch**

<http://www.oss-watch.ac.uk/>

To help higher and further education institutions in the UK who are using or developing OSS and is funded by Joint Information Systems Committee (JISC).

#### **The Open Source Observatory and Repository for European public administrations (OSOR)**

<http://www.osor.eu/>

OSOR is financed by the European Commission and managed by IT, consultancy and communications suppliers and European universities.

#### **Open Source Consortium**

<http://www.opensourceconsortium.org/>

The Open Source Consortium is the trade body representing the open source business community in the UK.

#### **Open Computing Alliance**

<http://www.opencomputingalliance.org/>

The Open Computing Alliance seeks to encourage productivity, growth and employment through the greater use of information, communications and technology (ICT).

**Open Source Initiative**

<http://www.opensource.org/>

The Open Source Initiative (OSI) is a non-profit corporation with global scope formed to educate about and advocate for the benefits of open source and to build bridges among different constituencies in the open source community.

**BCS**

<http://www.bcs.org/>

The Chartered Institute for IT

## APPENDIX B: GOVERNMENT OPEN SOURCE POLICY <sup>7</sup>

The key points of policy are set out below:

### *Open Source Software*

1. The Government will actively and fairly consider open source solutions alongside proprietary ones in making procurement decisions.
1. Procurement decisions will be made on the basis of the cost effectiveness of the solution to the business requirement, taking account of total lifetime cost of ownership of the solution, including exit and transition costs, after ensuring that solutions fulfil minimum and essential capability, security, scalability, transferability, support and manageability requirements. Where a 'perpetual licence' has previously been purchased from a proprietary vendor (and therefore often giving the appearance of a zero cost to a project), a shadow licence cost shall be applied to ensure a fair comparison of total cost of ownership. The shadow licence cost will be equivalent to the published list price of the product (no discounts can be factored in), or the price the public sector pays overall on a 'crown' deal.
2. The Government will expect those putting forward IT solutions to develop where necessary a suitable mix of open source and proprietary products to ensure that the best possible overall solution can be considered. Vendors will be required to provide evidence of this during a procurement exercise. Where no evidence exists in a bid that full consideration has been given to open source products, the bid will be considered non compliant and is likely to be removed from the tender process
3. Where there is no significant overall cost difference between open and non-open source products, open source will be selected on the basis of its additional inherent flexibility

### *Non-Open Source Software*

4. The Government will, wherever possible, avoid becoming locked in to proprietary software. In particular it will take exit, rebid and rebuild costs into account in procurement decisions and will require those proposing proprietary software to specify how exit would be achieved.
5. Where non open source products need to be purchased, Government will expect licences to be available for all public sector use and for licences already purchased to be transferable within the public sector – including into cloud based service environments - without further cost or limitation. The Government will where appropriate seek pan-government agreements

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<sup>7</sup> Cabinet Office Open Source, Open Standards and Re-Use: Action Plan, Jan 2010.

<http://www.cabinetoffice.gov.uk/resource-library/open-source-open-standards-and-re-use-government-action-plan>

with software suppliers which ensure that government is treated as a single entity for the purposes of volume discounts and transferability of licences.

### *Open Standards*

6. The Government will use open standards in its procurement specifications and require solutions to comply with open standards. The Government will support the development of open standards and specifications.

### *Re-Use*

7. The Government will look to secure full rights to bespoke software code or customisations of commercial off the shelf products it procures, so as to enable straightforward re-use elsewhere in the public sector. Where appropriate, general purpose software developed for government will be released on an open source basis.
8. Where the public sector already owns a system, design or architecture the Government will expect it to be reused and that commercial arrangements will recognise this. Where new development is proposed, suppliers will be required to warrant that they have not developed or produced something comparable, in whole or in part, for the public sector in the past, or where they have, to show how this is reflected in reduced costs, risks and timescale.
9. When suppliers are proposing a third party product there should be full price transparency. If there is a pan-Government agreement there should be the option to source through this where doing so would maximise overall public sector value. The Government will expect to be charged only the cost the supplier incurs unless the supplier can clearly and transparently provide evidence of the additional value created.

All decisions around the choice of software solution, including those based on open source must be consistent with value for money policy, the EU procurement rules and the EU Treaty principles.

In addition, in February 2011 the Cabinet Office published its '*Procurement Policy Note (PPN) Use of Open Standards when specifying ICT requirements*'<sup>8</sup> which states that, "Government departments should ensure that they include open standards in their ICT procurement specifications unless there are clear business reasons why this is inappropriate."









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<sup>8</sup> <http://webarchive.nationalarchives.gov.uk/+/http://www.cabinetoffice.gov.uk/resource-library/procurement-policy-note-ppn-use-open-standards-when-specifying-ict-requirements>



## APPENDIX C: TEMPLATES AND SUGGESTED WORDINGS

The following templates and wordings have been used in some areas in an Open Source context. While they are not the 'Government approved standard' they may be of use.

Title	Description	Document
Outline Implementation Plan	Basic steps towards implementation which will allow departments to reach Level 4 on the Open Source Policy Compliance Maturity Model	 Outline Plan   Outline Plan
Open Source Policy Compliance Maturity Model	Current version of the Open Source Policy Compliance Maturity Model	 OS Maturity Model V1 0.ods   OS Maturity Model V1 0.xlsx
Project Brief Template	Draft version of a project brief with sections included to cover Government ICT Strategy alignment (including consideration of Open Source)	 EB Common Project Brief Template HOIT   EB Common Project Brief Template HOIT
Contract Wording	Contract working re consideration and use of Open Source from an existing HO contract	 Contract Wording OSS.pdf   Contract Wording OSS.odt
Modification & Distribution	Elements to consider in contracts relating to modification and distribution of Open Source code developed for departments.	

		 <p>Modification and Distribution odf.odt</p>  <p>Modification and Distribution pdf.pdf</p>
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## **APPENDIX D: Open Source outside the UK**

There are many documents and reports available from outside the UK which examine the reasoning behind why governments would choose Open Source and the practicalities of acquiring it. These are a selection of those which might provide information which will be of use to those interested in the use of Open Source

### **Guideline on public procurement of Open Source Software**

This document was produced in 2010 by the IDABC programme (Interoperable Delivery of Pan-European eGovernment Services to Public Administrations, Business and Citizens).

It is not a general purpose guide for procurement of software but rather is specifically designed in order to explain how and why public agencies can acquire open source.

Although the views expressed in the document are purely those of the writer and should not be interpreted as stating an official position of the European Commission readers who are interested in procurement of Open Source may find it interesting and informative.

<http://www.eolevent.eu/sites/default/files/OSS-procurement-guideline-public-2010-FINAL.pdf>

### **Free and open source software - Sweden**

Statskontoret, the Swedish Agency for Public Management, performed a feasibility study on free and open source software. The purpose of the study, which was conducted with the cooperation of several Swedish government agencies, was to provide a guideline for how public administrations and agencies should relate to open source and free software.

The cross-government team running the study stated that 'open software in many cases are equivalent to, or better than, commercial products.'

<http://www.campussource.de/org/opensource/docs/schwed.studie.pdf>

### **Guide to Open Source Software for Australian Government Agencies**

These web pages are the Australian equivalent of the UK Open Source Toolkit.

<http://www.finance.gov.au/e-government/infrastructure/open-source-software.html>

### **Open Technology Development USA**

This report, written for the US Department of Defence, strongly cautions against proprietary vendor lock-in and discusses how open standards can facilitate interoperability between open source and proprietary systems.

<http://www.acq.osd.mil/jctd/articles/OTDRoadmapFinal.pdf>

## **CPB Netherlands Bureau for Economic Policy Analysis**

This study analyses when it may be desirable for government to stimulate open source software as a response to market failures in software markets.

<http://www.cpb.nl/en/publication/competition-innovation-and-intellectual-property-rights-software-markets>

## **Open standards and open source software in central government: Netherlands Court of Audit**

Examines the potential savings to be achieved through the wider application of open standards and open source software in central government.

[http://www.courtsofaudit.com/english/Publications/Audits/Introductions/2011/03/Open\\_standards\\_and\\_open\\_source\\_software\\_in\\_central\\_government](http://www.courtsofaudit.com/english/Publications/Audits/Introductions/2011/03/Open_standards_and_open_source_software_in_central_government)