Considerations on Updating the European Commission's "Open Source Strategy"

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1   Introduction

The purpose of this document is to provide input on a number of specific questions to the team tasked with updating the EC's Open Source Strategy, which is meant to guide the decisions of those in charge of the Commission's IT systems and IT procurement, with respect to contributing and releasing software under a Free Software license.[1] The ultimate goal of this paper is to enable the European Commission to maximise the value for money it obtains from its IT systems, by leveraging the advantages of Free Software and open file formats.

This document does not constitute legal advice. If legal advice from a specialist is required, FSFE will be honoured to facilitate contacts with competent lawyers.

While in this document we focus on the European Commission, the information contained herein applies equally to other EU institutions, as well as to public bodies more generally.

The terms "Free Software" and "open source software" both refer to computer programs which recipients may use, study, share, and improve. In this document, the term "Free Software" is preferred. Both terms cover the same set of programs[2].

2   Contributing to external Free Software projects

The Commission, and other European institutions, are currently making use of numerous Free Software programs and applications[3]. At the same time, the Commission admits that it is "in a situation of effective captivity with Microsoft as regards its desktop operating systems and office productivity tools"[4]. Making greater use of Free Software tools is an essential step in loosening the bonds of this captivity. In addition, the Commission's IT services are adapting, patching and improving Free Software programs for their own use. If the European Commission contributes to outside Free

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[1]The author wishes to express his gratitude to the following experts who contributed to this document: Karel de Vriendt, Carlo Piana, Malcolm Bain, Gijs Hillenius, Daniel Melin, Mirko Boehm. Any mistakes are the author's alone.

[2]A   detailed   explanation   is   available   at   `http://fsfe.org/about/basics/freesoftware.en.html`

[3]`http://ec.europa.eu/dgs/informatics/oss_tech/index_en.htm`

[4]European Commission, "Future Office Automation Environment", p.1. Document released by Secretary General Catherine Day in response to questions from MEP Andersdotter on January 31, 2014.

Software tools which it uses itself, those contributions will help to make those tools more useful, quickly and in a cost-effective manner.

Permitting such contributions is the most cost-effective way of improving the tools that the Commission is using. Ideally, these contributions will become part of the mainline project; this would eliminate the need for the Commission's developers to repeatedly apply Commission-specific patches to subsequent versions of the programs in question, freeing up their time for more useful tasks. (It should be noted that such improvements are out of the question with non-free software; here, the Commission is fully dependent on the vendor of the program for any fixes or improvements.

Already in 2005, the Commission published a "Guideline for Public Administrations on Partnering with Free Software Developers"[5], which remains a useful resource.

It is useful to distinguish between contributing to an external project as a way to improve it (e.g. by providing upstream patches and modules), and releasing an internally-developed program to the public under a Free Software license.

Contributions to an existing project are only a matter of internal organization of the Commission. Contrary to what happens if the public entity distributes software under a closed or "proprietary" license software which may compete with existing applications in the same market, contributing to a public Free Software project does not put the Commission in a situation of competition with commercial actors.

2.1   Clarify copyright ownership among EC and agencies

Currently, the copyright on code and documentation created by Commission staff is held by the Commission. The contracts with service suppliers normally state that all software developed for the Commission in the context of the contract is owned by the Commission. The relevant director-general decides on issues related to copyright and trademarks, after having consulted the legal service and the Joint Research Centre.

When contributions are created by contractors external to the Commission, copyright ownership will depend on the terms of the contract in question. Where the Commission holds copyright on the work created under these contracts, it may decide to distribute the work in question under a Free Software license of its choice.

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[5]`https://joinup.ec.europa.eu/elibrary/case/guidelines-public-administrations-partnering`
`-free-software-developers-2005`

Alternatively, the EC could choose to let copyright in the newly created code and documentation remain with the contractor, and impose a contractual obligation for the contractor to publish these assets in a suitable manner under a Free Software license (and perhaps participate in their maintenance for a specified period of time).

As the expert on the specific project, the contractor is in a much better position to handle the distribution of the software and documentation in a productive and sustainable way, by bringing the necessary technical and legal expertise to bear. At the same time, it is important to recognise that distributing software is not among the Commission's primary responsibilities; this task should therefore be handled in the most efficient manner possible. For this approach to work, the Commission however needs to set the right requirements and incentives. (This is an approach adopted in Sweden, for example.)

2.2   Create a policy

Contributions to outside Free Software projects by developers working for the Commission could be enabled through a simple policy signed by the relevant Director General. This policy could be approved after consultation with the legal service and the joint research centre.

As an important first step, the EC should state publicly that developers working on Commission software projects and using or implementing Free Software solutions can contribute to the upstream projects any bug fixes and new functionality.

Where a more explicit policy is required, it should be as simple as possible, both in administrative and linguistic terms. The policy should contain the following elements:

- Rationale for the policy

  - Free Software serves to avoid lock-in, and enables a more effective IT strategies in the public sector.

- Operational part, describing steps that developers should follow:

  - Identification of the Free Software project to which developers will contribute (the "target project")
  - Identification of copyright and trademark ownership regime for potential contributions from the EC

- Identification of the target project's license and contribution policy
- Identification of person(s) involved in the process, and their approval (if required)
- Identification of required documentation
- Example header files

For cases where explicit approval is required, the policy should stipulate a clear approval path, and a time period during which the developer can expect to receive approval, e.g. one week.

2.3 Make contributing simple

If useful adaptations of software tools to the Commission's needs are actually to occur, making such improvements simple is the first step. In order to ensure that these improvements will be contained in future versions of the outside project, it is important to simplify the process for developers to contribute these improvements "upstream" to the outside project.[6]

We recommend to use the above-mentioned policy to give developers working for the Commission and other European institutions blanket permissions for small contributions that are directly related to Free Software projects which are currently in use within the institution in question.

For more substantial contributions, or in cases where the usefulness of the contribution requires further explanation, we suggest that the Commission Free Software policy should outline and set up a simple, efficient approval process. This process should provide developers with a clear decision path, and a clear timeline indicating how long after their inquiry they can expect to receive a decision.

In order to make the process efficient, we recommend to apply the Commission's rules on public statements by its employees in a sensible manner. As a rule, source code does not serve to convey views or opinions. Concerns that developers through their contributions might make statements that would be potentially damaging to the Commission are in our view largely unwarranted. While it is theoretically conceivable that a developer might choose to make damaging statements as part of his or her contribution, current Commission employment rules and policies provide ample means to

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[6]An important resource in this regard is the Report on policies and initiatives on sharing and re-use published by the ISA programme in February 2013.

handle any such incidents, in the very unlikely case that they were to occur at all.

Theoretically, one could argue that while the contributions will not convey views or opinions, the fact that the Commission contributes to a particular Free Software product may be conceived as a statement of support/approval of this product. While the author has never once encountered this sort of problem in practice during the past 10 years, such concerns could be addressed with a public disclaimer posted alongside an explanation of the Commission's contribution policy, or even alongside the updated Open Source Strategy.

2.4 Incentivise developers to contribute

If useful adaptations of software tools to the Commission's needs are actually to occur, making such improvements simple is only the first step. In addition, we recommend a few simple measures to incentivise developers in this regard.

The first measure is to set up efficient and painless processes for contribution. Not only should contributing to the mainline project not require additional effort; doing so should ideally be *easier* for a developer than applying a patch only to the copy of the software that is being used within the Commission.

The second measure is to permit developers to attach their name to their contributions, while the copyright remains with the European Commission or another EU institution. Contributions to Free Software projects are an important and valued component of a developer's experience and resume, since they permit future employers to get a realistic impression of a potential hire's skills. Permitting developers to attach their name to the contributions they make would allow them to build up a portfolio of demonstrable work experience during their time with the Commission, and would make the Commission a more attractive employer.

In practice, the best path would be to allow developers to write the copyright notices on their contribution in roughly the following way:

> This code contributed by Jane Smith <jane.smith@ec.europa.eu>.
> © 2014 European Commission.

It should be noted that both measures are simple steps to take, and require little more than an administrative decision. They also do not add costs; on the contrary, they may well contribute to reducing costs for maintenance and adaptions in the medium term.

2.5   Under which license to release EC contributions?

When developers associated with the Commission contribute to existing Free Software projects, such contributions will as a rule need to be made under the same Free Software license as the main project. In fact, most projects would refuse contributions under any other license, because mixing different licenses in the same project would quickly lead to conflicting sets of copyright rules, creating problems that are difficult or impossible to resolve.

2.6   Contributor agreements

Some Free Software projects demand that contributors assign the copyright in their contributions to an organisation, usually either a company or a foundation acting as a fiduciary. These agreements have the purpose of making projects with a large number of contributors easier to manage on the legal level.

   If developers, or the organisations where they work, are required to sign a contribution agreement in order to contribute to a project, we recommend to submit the proposed agreement to a competent lawyer for consideration. Most likely, such questions will need to be decided by the Director General after having consulted the Commission's Legal Service and the relevant department in the Joint Research Centre. A repository of approved contribution agreements could be maintained, to avoide repeated legal review. The required effort should be weighed against the benefit of having the software in question adapted to the Commission's needs.[7]

3   Distributing software developed by or for the EC

Public administrations are always at liberty to develop software for their own purposes, or contract out such work to third parties. Once this software has been developed, the public administration may decide to make the program available to others as well.

3.1   Why should the European Commission release its own programs as Free Software?

Software is a non-rival good: If a citizen or company makes use of a computer program paid for by the European Commission, this use does not in any

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[7]FSFE offers a Fiduciary Licensing Agreement as a legal tool for Free Software projects that wish to centralise their copyright in a single legal entity.

way interfere with the Commission's own use of that program. [8] Quite to the contrary: The program might actually generate additional value for the citizen or company which was not previously available. According to a study by Carlo Daffara, Free Software contributes 450 billion Euro each year to Europe's economy, in direct savings and increased productivity and efficiency.[9]

It is important to understand that the value of any software released by the Commission under a Free Software license is in the eye of the beholder, i.e. the external user. As with Open Data, external users may put these programs to useful purposes that the Commission could not predict ahead of time, thus generating added value for Europe's economy at no additional cost to the taxpayer.[10] Since distributing software is not among the primary responsibilities of the European Commission, it is important that this process should be designed to be as efficient as possible.

The European Commission is ultimately funded through the taxes of European citizens. It is only logical that wherever possible, the assets created with public funds should be made available to the public. On its Joinup portal[11], the Commission offers a platform for public administrations to make their software available for re-use. Some European regions, such as Andalusia and the Basque Country in Spain, are requiring all programs developed with public funds to be made available as Free Software. These policies follow an economic logic of stimulating the development of competent IT companies in those regions, and we consider them an example which the European Commission might wish to follow.

3.2   Current Free Software releases by the European Commission

The European Commission has developed a Free Software license of its own explicitly for this purpose: The European Union Public License (EUPL)[12].

Already now, the The European Commission is making numerous Free Software solutions publicly available through the Joinup repository and col-

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[8]The opposite would be the case for an office chair or desk: It could not reasonably be used by a Commission official at the same time as it is being used by a citizen or company.

[9]Daffara, Carlo (2012): Estimating the Economic Contribution of Open Source Software to the European Economy. In: Shane Coughlan (ed.): First OpenForum Academy Conference Proceedings. Available at `http://www.openforumacademy.org/library/ofa-research/first-conference-proceedingsA4.pdf`

[10]See `http://data.gov.uk/about`

[11]`http://joinup.ec.europa.eu`

[12]See `https://joinup.ec.europa.eu/software/page/eupl`

laborative platform, a project by DG DIGIT's ISA Programme. Examples include:

- Open ePrior (now being implemented by the Belgian Federal and the government of the Flemish region)

- Open eTrustEX

- ECI Validation Tool for Statements of Support (VTECI)

- ECI Online Collection Software (OCS)

- SPOCS-Simple Procedures Online for Crossborder Services

- Tarîqa

- Multilingual Electronic Dossier

- Inspire Registry

- Inspire Geoportal

- Inspire validator

- mAggregator

- mDownloader

- ePetition (renamed euSurvey)

- Stork

- Joinup (now reused by the government of Vietnam, South Australia and Australia and New Zealand)

- OS toolbox

- Echo Offline eSingle form

These examples indicate that the EC already has substantial practical experience in sharing software. We recommend to systematically review the lessons learned, identify potential improvements to the process, and implement them.

3.3   Making releasing software under a Free Software license easy

As discussed in relation to contributions to existing projects discussed above, the decision procedure within the Commission is the same in both cases: the relevant Director General consult the Legal Service and the Joint Research Centre and takes a decision.

When releasing software, we recommend that the Commission should follow accepted best practices of the Free Software community. Projects should have a modular structure, and should ideally be hosted on a public version control platform that makes it easy for both in-house and outside developers to contribute to the project.

Before distributing or publishing newly developed software, the Commission should carefully check that the finished program complies with all license requirements on inbound code (i.e. existing Free Software components used in the project). The EC should also select a Free Software license under which to distribute the project. In the past, the Commission has given preference to the European Union Public License (EUPL). Depending on the inbound code being reused, it may be necessary to distribute the project under another license, such as the GNU General Public License.

4   Further considerations

4.1   Liability

4.1.1   Outbound liability

The question of liability is sometimes raised in connection with oublic bodies releasing Free Software, or to contribute to external Free Software projects. While this is a prudent consideration to undertake, it does not present an obstacle to such releases or contributions in practice.

This section is based on a legal opinion published by Dr Till Jaeger and Dr Carsten Schulz, which in addition to being the leading document in this field can be considered to have stood the test of time.[13] The opinion is based on German liability law, which carries perhaps the most stringent liability rules in the EU.

According to Jaeger and Schulz, software that is distributed free of charge has the legal status of a gift. This means that the institution providing the

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[13]Dr Till Jaeger, Dr Carsten Schulz: Gutachten zu ausgewählten rechtlichen Aspekten der Open Source Software. JBB Rechtsanwälte, 2005. Available at `www.ifross.org/ifross_html/art47.pdf`.

software (in this case, the Commission or another European institution) will only be liable for defects which it has maliciously concealed.[14]

Should the program turn out to infringe any third-party rights (such as copyright, patents or trademarks held by others), the Commission would only be liable if it had introduced such infringements knowingly and willingly.[15]

In addition to these considerations, it is worth pointing out that neither the author of this document (despite a decade of personal experience in the field) nor any of the experts that have contributed to this text are aware of a single successful liability complaint brought against a person or institution who has distributed Free Software free of charge.

4.1.2   Inbound liability

Where the Commission uses Free Software produced externally, the developers and distributors of the programs in question normally cannot be held liable for any problems or malfunctions. Where the Commission deems it necessary to have an external party to hold liable for problems, it may enter into a service contract with a suitable company.

It is worth noting that in practice, there is little or no difference between Free and non-free software in this regard. The makers of non-free programs typically design their end-user license agreements to exclude liability to the maximum extent possible under the law. This means that even in extreme circumstances, software makers can only be held liable for defects which they have maliciously concealed.

4.2   Remarks on software procurement practices

Free Software represents only a part of the software used by the Commission. Significant benefits are available from updates to the Commission's approach to software procurement.

IT procurement is a complex and dynamic field. It would therefore be prudent for the Commission to stay abreast with the rapid development of best practices in the field. A particularly valuable example are the "Red Lines for IT procurement" announced by the UK Government in January 2014[16].

Besides putting an explicit limit on the size of individual contracts, these rules state that:

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[14] Jaeger/Schulz 2005, p.67

[15] Jaeger/Schulz 2005, p.69

[16] https://www.gov.uk/government/news/government-draws-the-line-on-bloated-and-wasteful-it-contracts

- companies with a contract for service provision will not be allowed to provide system integration in the same part of government

- there will be no automatic contract extensions; the government won't extend existing contracts unless there is a compelling case

- new hosting contracts will not last for more than 2 years

Figure 1: Geographical distribution of the UK Government's IT supply chain, 2010. Image from presentation by Linda Humphries, GDS, Dec. 3, 2014. UK Crown Copyright, Open Government License v3.

Pointing out that "[s]marter purchasing realised savings of £3.8 billion in 2012 to 2013 alone", the government's chief procurement officer said that these steps were intended to counter monopolistic or oligopolistic behaviour among suppliers[17] of precisely the sort that have lead the Commission into its current "effective captivity" to Microsoft in particular.

When procuring new solutions, the Commission should consider future

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[17]See http://www.bbc.com/news/uk-politics-25884915

exit costs during the process of assessing new solutions, along the lines of the UK Government's Technology Code of Practice:

> "Ensure a level-playing field for open source software. Demonstrate an active and fair consideration of using open source software – taking account of the total lifetime cost of ownership of the solution, including exit and transition costs."[18]

Figure 2: Geographical distribution of the UK Government's IT supply chain, 2014 Image from presentation by Linda Humphries, GDS, Dec. 3, 2014. UK Crown Copyright, Open Government License v3.

In addition, the UK Government's Open Standards principles deal with the issue of exit costs:

> "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."[19]

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[18]https://www.gov.uk/service-manual/technology/code-of-practice.html
[19]Gov.uk Open Standards Principle 4

Taken together, the UK Government's Open Standards policy and the changes made to IT procurement have already resulted in a significant diversification of the government's IT supply chain, as indicated by the changed geographical distribution of the government's IT suppliers:

5 Conclusions

The European Commission stands to gain significant advantages from allowing its developers and contractors to contribute to outside Free Software projects. By distributing its own programs as Free Software, the Commission can enable the interoperability gains and efficiency savings that come with reuse. Such releases also make valuable assets available to the taxpayers who paid for them, enabling further economic exploitation. Provided that appropriate policies and processes are put in place, neither contributions to outside projects nor the release of programs as Free Software carries any significant risks or downsides for the Commission.

Main considerations related to contributing to external Free Software projects:

- Allowing the EC's developers and contractors to contribute to upstream projects currently in use at the Commission is an effective way of ensuring that these programs will suit the Commission's needs in future. Such contributions will not, as a rule, put the Commission in competition with commercial actors.

- The first step in enabling developers and contractors to contribute to upstream projects is to clarify who holds copyright in their contributions, and therefore is in a position to decide on the license conditions under which the contribution shall be distributed.

- To actually enable contributions to outside upstream projects, the EC should publish a statement clarifying that such contributions by Commission staff and contractors are permitted and desired.

- As a next step, the Commission should create a simple policy for more substantial contributions and other cases where explicit approval is required. This policy should state a clear approval path for contribution requests, along with the maximum time that the requesting developer will have to wait for an answer.

- Besides making the process of contributing to outside projects as simple as possible, the Commission can incentivise its developers to engage in such contributions by allowing them to include their name in the copyright notice (while copyright remains with the EC).

Main considerations related to the EC releasing programs developed by the EC as Free Software:

- Software created by or for the European Commission is ultimately funded by European taxpayers. The Commission should make such software available for reuse by default; Free Software licenses provide an efficient mechanism for this.

- Already now, the EC distributes numerous programs under Free Software licenses, and has gained significant experience in this regard.

- When distributing its own programs as Free Software, the Commission is free to choosing a license which it considers suitable. If pre-existing Free Software components were used in the project, the EC's choice of license will have to fulfil the license requirements of those inbound components.

- The EC would only be liable for defects in programs it distributes if it has maliciously concealed those defects. In practice, it is extremely unlikely that such programs will present a source of liability claims against the Commission.

In addition to these considerations, we recommend that the EC should review its approach to software procurement to take into account best practices that were recently developed, such as the standards and procurement policies issued by the UK government in 2013-14.