

Open Source Software Licence at CERN Recommendations from the OSL Task Force

François Fluckiger, Editor
20 April; 2012

Main Volume-Short version

*This document is **Short Version** of the Main Volume of the final report of the Open Source Licence Task Force (OSL Task Force).¹*

*The **Main Volume** (OSL-2012) contains in addition the rationale of the recommendations, background information, educational appendices and recommendations for the next steps.*

*Detailed **Instructions for specifying the licence terms** (copyright statement and applicable licence statement) as well as the verbatim text of the recommended licences are specified in document OSL-2012-02 “**Instructions for specifying the licence terms in Open Source software**”*

Contents

Executive summary	2
1 Recommendations	4
2 Key properties of the recommended licences	7
2.1 Copyleft licences	8
2.2 Special Copyleft licences (Interoperable-Copyleft)	8
2.3 Permissive for Inclusion licences	9
2.4 Permissive for Inclusion and Modification licences	9
3 Other recommendations	10
3.1 Recommendation concerning Collaboration Agreements	10
3.2 Chart of proposed decision-making process for Open Source licence	11

¹ Following a proposal by the editor of this report, in March 2011 the Heads of FP Department and IT Department, recognizing that the situation regarding Open Source Software licensing at CERN needed clarification, created the Open Source Licence Task Force (OSL Task Force) to formulate recommendations on which licence should be used for software developed at CERN

Executive summary

The OSL Task Force received the mandate to *formulate recommendations on which licence(s) should be used for which class of software developed at CERN*. In response, the Task Force has produced this document and the recommendations set out herein.

- **Summary of Recommendations:**

These recommendations are consistent with the CERN Convention, the CERN Policy on the Management of Intellectual Property in Technology Transfer Activities and the Open Access Policy for publications.

1. Whenever possible, software owned in whole or in part by CERN should be made available as **Open Source**.
2. Exceptions to Open Source licensing may be considered in two main scenarios (section 2.2).
3. Any software owned in whole or in part by CERN must contain in the notice a statement acknowledging (i) the **copyright of CERN** and other copyright owners as applicable; (ii) the **applicable licence**, and (iii) **CERN's special status** as an Intergovernmental Organization (section 4.1).
4. The Open Source licences used for CERN-owned software should be widely used licences approved by the **Open Source Initiative (OSI)**.
5. Four classes of software owned in whole or in part by CERN have been identified. Which Open Source licence to use depends upon (i) whether the software was developed solely by CERN or in collaboration with partners and, (ii) whether it makes use of third-party software.
 - a. For software developed solely by CERN, the *default* licence, a “**Copyleft**” licence: **GPLv3** is to be used whenever possible. An *alternate* licence, a “**Permissive for Inclusion**” licence: **LGPLv3** may be used for special cases such as program libraries when the prime objective of the Open Source distribution is the rapid wide-spread adoption of these programs. An *exception* licence, a “**Permissive for Inclusion and Modification**” licence: **Apache v2** may be used when constraints are imposed on the development of the software by existing agreements, such as an external funding body, or when no control over the possible commercial exploitation of the program by third parties is necessary. If the software makes use of third-party software, the case will be analyzed by the CERN Knowledge Transfer Legal Officer, who may propose a different licence in case of licence incompatibilities.
 - b. For software developed by CERN in collaboration with other partners, CERN should propose to its partners to apply the above policy. If no agreement is reached on one of CERN recommended licences, CERN may negotiate with its partners another licence². Such licence may be a “Permissive for Inclusion and Modification” licence, if considered in the interest of CERN and of the collaboration as a whole
6. For software developed by CERN in collaboration with other partners, whenever possible, a **Collaboration Agreement** should be established at the inception of the collaborative project, specifying the software licence to be used and the governance mechanisms of the collaboration (section 4.4).

² Provided (i) it does not contain a clause attributing jurisdiction to a specific court, and (ii) it is approved by the Open Source Initiative (OSI)

- **Rationale of the Recommendations**

- The Open Source principles encourage the creation of open communities and collaborations of users invited to improve and complement the software and share their enhancements with the entire community. This accords with the historical CERN collaborative spirit and maximizes the in-kind return to CERN. In substance, this recommendation promotes the concept of *collaborative dissemination* (section 4.3.1).
- The philosophy of Copyleft licences may be summarized as follows: “*As a User (the Licensee) of the licensed software, you cannot redistribute the original or a derivative work with fewer rights than the ones you yourself received*”. As a consequence, since an Open Source user receives the source of the software, then the user must, in turn, provide the source of any modified version. As a derivative work must be distributed under the same licence, Copyleft licences are said to ensure the non-appropriation by third-parties of the Open Source software (section 3.1 and 4.3.1).
 - The Copyleft philosophy fits best with CERN scientific philosophy and tradition.
 - The Open Hardware Licence adopted by CERN in the spring 2011 is a fully Copyleft licence.
 - By preventing appropriation by third-parties, Copyleft licensing encourages sharing but also allows more control over the possible commercial exploitation through dual licensing of CERN software.
 - The European Commission defends the sharing philosophy of Copyleft licences, in particular for public administrations. To this end, it has developed and is promoting the European Union Public Licence (**EUPL**), which has been adopted by several national public administrations.
- **GPLv3** is recommended as Default licence at the present time (as the last version of the most widely-used Copyleft licence). GPLv3 has a number of more modern features than its predecessor GPLv2, including compatibility with Apache v2.
- Although **EUPLv.1.1** is a promising, modern, flexible and easy to use Copyleft licence (section 4.3.4 and Volume of Annexes section 1.5) it is currently not compatible with CERN’s status as an Intergovernmental Organization. It is recommended that CERN approach the European Commission on a possible change of the licence, to make it compatible with the particular legal status of Intergovernmental Organizations.

1 Recommendations

1. Whenever possible, software owned in whole or in part by CERN should be made available as Open Source. Software owned in whole or in part by CERN includes:
 - a) software that results from, or is substantially based on, a member of the personnel's activities within the Organization or on its behalf, except as may be otherwise stipulated by the Organization in its agreements and memoranda of understanding³,
 - b) software developed in the framework of an agreement which defines the resulting IP as solely or co-owned by CERN;
 - c) software developed in the framework of a purchasing contract to which the CERN General Conditions of Contract apply.
2. Exceptions to Open Source licensing may be considered in two main scenarios:
 - A- No distribution at all:
 1. A substantial effort is required to appropriately package the software for public release, and it is considered that this effort significantly exceeds the expected benefits of Open Source distribution;
 2. The quality of the software (in terms of performance, reliability, functionality and programming) is considered insufficient, and its public exposure risks to convey a negative image of CERN.
 - B- Non-Open Source distribution:
 1. Existing collaborative agreements or external constraints, for example such as those imposed by funding bodies, prevent Open Source distribution;
 2. The specific circumstances of a collaboration require *ad hoc* non-Open Source licensing conditions;
 3. Based on a thorough analysis of the case, a non Open Source approach is considered more effective for maximising dissemination.
3. Notwithstanding the licence, which defines the conditions of use, or the Class of software being considered, any software owned in whole or in part by CERN must contain in the notice a statement acknowledging (i) the copyright of CERN and other copyright owners as applicable; (ii) the applicable licence, and (iii) CERN's special status as an Intergovernmental Organization⁴:

Example:

© Copyright [year] CERN [and other copyright owner as applicable]. This software is distributed under the terms of the GNU General Public Licence version 3 (GPL Version 3), copied verbatim in the file "COPYING". In applying this licence, CERN does not waive the privileges and immunities granted to it by virtue of its status as an Intergovernmental Organization or submit itself to any jurisdiction.
4. The Open Source licences used for CERN-owned software should be widely used licences approved by the Open Source Initiative (OSI).

³ Based on section S I 5.01 of the Staff Rules and Regulations (as proposed for the next revision of the CERN Staff Rules and Regulations), which applies to all categories of the members of the personnel defined in section S I 2.01, including associated members of the personnel.

⁴ See section 4.1 below.

5. Four classes of software owned in whole or in part by CERN have been identified. Which Open Source licence to use depends upon (i) whether the software was developed solely by CERN or in collaboration with partners and, (ii) whether it makes use of third-party software⁵. Summary of the recommendations for each class of software follows:

	SW developed solely by CERN	SW developed by CERN in collaboration with other partners
SW making no use of, nor based on, third-party SW	Class 1	Class 2
	Default GPLv3 Copyleft Licence	CERN to propose Class 1 options to partners
	Alternate LGPLv3 Permissive for Inclusion <i>(Special cases such as libraries)</i>	Decide case by case in case CERN Class 1 options not accepted
Exception Apache v2 Permissive for Inclusion and Modification <i>(Special cases such as project with external constraints)</i>		
SW making use of, or based on, third-party SW	Class 3	Class 4
	Class 1 options in case of licence compatibility	CERN to propose to partners Class 1 options In case of licence compatibility
	Decide case by case in case of licence incompatibility	Decide case by case in case of licence incompatibility or Class 1 options not suitable

For Class 1: Software developed solely by CERN and making no use of third-party software

1. The *default* licence, a “**Copyleft**” licence: **GPLv3** (Gnu General Public Licence Version 3). This licence is to be used whenever possible.
2. An *alternate* licence, a “**Permissive for Inclusion**” licence: **LGPLv3** (Gnu Lesser General Public Licence Version 3). This licence may be used for special cases such as program libraries when the prime objective of the Open Source distribution is the rapid wide-spread adoption of these programs.
3. An *exception* licence, a “**Permissive for Inclusion and Modification**” licence: **Apache v2**. This licence may be used when constraints are imposed on the development of the software by existing agreements, such as an external funding body, or when no control over the possible commercial exploitation of the program by third parties is necessary.

For Class 2: Software developed by CERN in collaboration with other partners and making no use of third-party software

- a. CERN should propose to its partners to apply the Class 1 policy.
- b. If no agreement is reached on one of CERN recommended licences, CERN may negotiate with its partners another licence provided (i) it does not contain a clause attributing jurisdiction to a specific court, and (ii) it is approved by the Open Source Initiative (OSI). Such licence may be a “Permissive for

⁵ In this report, “third-party software” means software not owned in whole or in part by CERN.

Inclusion and Modification” licence, if considered in the interest of CERN and of the collaboration as a whole.

For Class 3: Software developed solely by CERN and making use of third-party software

- The Class 1 policy should be applied whenever possible..
- Each case will be analyzed by the CERN Knowledge Transfer Legal Officer, who may propose a different licence in case of licence incompatibilities.

For Class 4: Software developed by CERN in collaboration with other partners and making no use of third-party software

The policy of Classes 2 and 3 should be applied.

6. **For Classes 2 and 4**, whenever possible, a Collaboration Agreement should be established at the inception of the collaborative project, specifying the software licence to be used and the governance mechanisms of the collaboration. In such collaborative projects, if the contribution from CERN is modest, CERN may consider it preferable to transfer the ownership of the copyright of its contribution to one of the partners in the collaboration.
7. The following decision making process is recommended for choosing an Open Source licence (section 4.5):
 - a. The author(s) of the software and their supervisor(s) (Section and Group leader) discuss and document the case, indicating precisely, if applicable, the nature and the mode of use of any third-party software.
 - b. They submit the case to the Departmental Knowledge and Technology Transfer Officer (DKTO), who verifies the case is properly documented and provides advice as appropriate on the licence to be used.
 - c. The DKTO transmits the case to the CERN KT Legal Officer for validation of the chosen licence, after verification of the licence compatibility and discussion with the author(s) and/or supervisor(s) as appropriate.
 - d. The CERN KT Legal Officer informs the DKTO of the result of the case examination.
 - e. The author includes a statement, as described in 4.1 below, in each source file of the software.
8. These recommendations are limited to the mandate received by the OSL Task Force. If they are accepted, the creation of a permanent structure to deal with Open Source Software matters is proposed (see section 5).

2 Key properties of the recommended licences

In determining the licences to recommend, the OSL Task Force analysed a selection of licences that are OSI-approved, widely used, and, with the exception of EUPL, compatible with the status of CERN as an intergovernmental organization.

Open Source licences may be classified in three different categories:

1. The Copyleft licences (sometimes called “strong Copyleft licences”)
2. The Permissive for Inclusion licences (sometimes called “weak Copyleft licences”)
3. The Permissive for Inclusion and Modification licences (sometimes called “non-Copyleft licences”)

This table provides examples of such licences and cases of use at CERN.

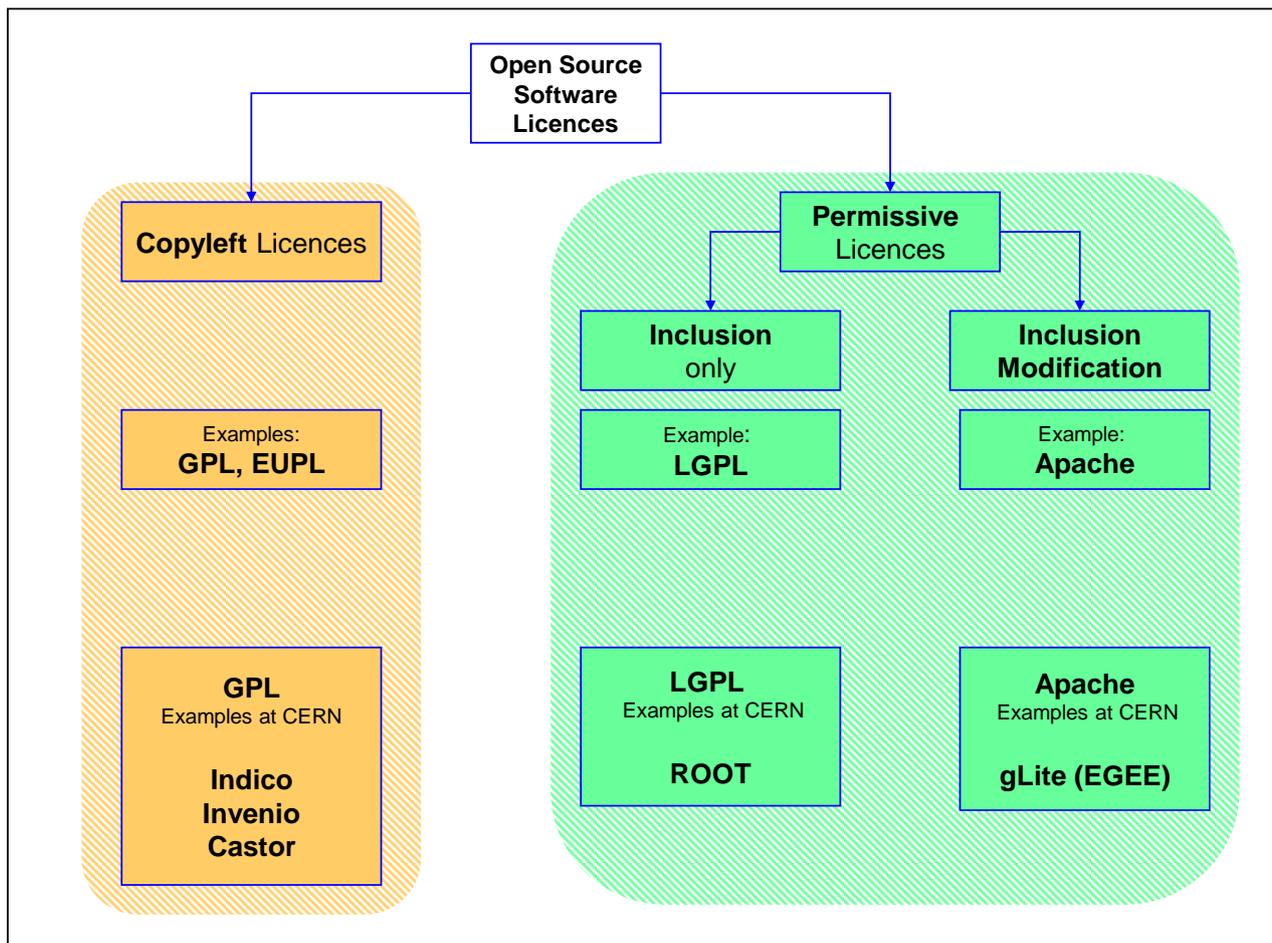


Figure 1: Main categories of Open Source licences and examples of use at CERN

2.1 Copyleft licences

Free Software

The Copyleft principles were laid down by the Free Software Foundation (FSF) which was at the inception of the Open Source Software (OSS) movement with the GPL and later the LGPL licence. The FSF has published the Free Software Definition⁶.

GPL and EUPL (Copyleft), LGPL (Permissive for Inclusion) and Apache v2 (Permissive for Inclusion and Modification) are all examples of Free Software.

Philosophy of Copyleft licences

The philosophy of Copyleft licences may be summarized as follows: *“As a User (the Licensee) of the licensed software, you cannot redistribute the original or a derivative work with fewer rights than the ones you yourself received”*.

As a consequence, since an Open Source user receives the source of the software (with the rights to redistribute, include or modify it), then the user must also, in turn, provide the source of the software itself and of any modified version. There is no obligation for the user to provide the source of his derivative if he does not distribute it to any third party but creates a work solely for his own use.

As a derivative work must be distributed under the same licence, Copyleft licences are said to ensure the non-appropriation by third-parties of the Open Source software.

Open community spirit

As Open Source Software in general, the spirit behind a Copyleft licence is the creation of an open community of users or developers where the licensees are encouraged not only to improve, correct, complement and integrate the software they receive but also to make available these enhancements to the entire community. The difference between copyleft and non-copyleft licences is that users cannot take the Open Source Software and turn it into proprietary software, thus preventing any member of this open community to depart from the principles of reciprocal contribution.

Note that “Free software” does not mean “non-commercial.” A Copyleft program is available for commercial use, commercial development, and commercial distribution. Companies may sell copies or services associated with the Free Software, provided they maintain the freedom of the user to copy and change it.

Commercial Exploitation

Any software distributed under a given licence may also be distributed under one or more different licence(s). This is often referred to as dual or multiple licensing.

A frequent case of dual licensing is the public release of a programme under a Copyleft licence (such as GPL) and, contemporaneously, a bilateral agreement between the programme owner and a third party company for the commercial exploitation of the software.

2.2 Special Copyleft licences (Interoperable-Copyleft)

As Copyleft licences require that combined or derivative works be distributed under the same licence, this may pose compatibility issues when combining programmes released under different Copyleft licences.

To overcome this difficulty, a new variant of Copyleft licences, called “Interoperable-Copyleft licences” or “IC Licences” was recently designed.

The chief example of Interoperable-Copyleft licences is the EUPL licence, which provides an explicit list of compatible Copyleft licences (that is, a programme distributed under one of the compatibility list licences may be combined with a EUPL programme and the resulting collective work be distributed under the compatible licence, rather than EUPL).

⁶ See the Volume of Annexes for details.

2.3 Permissive for Inclusion licences

Philosophy of Permissive for Inclusion licences

Such licences are sometimes called “Permissive in composition” licences.

They typically follow the same rules as Copyleft licences except that the user may include, unmodified, the Open Source Software in a larger programme and release the larger work under a licence different from the initial Open Source licence.

LGPL is the most widely used Permissive for Inclusion licence.

The chief consequence of the permission for inclusion is that the user is not obliged to provide the full source code of its larger work.

Note also that:

- if the user has modified the LGPL licensed software and wishes to publicly release this modified version or any work that incorporates it, the work must be distributed under the LGPL licence.
- the user cannot redistribute the unchanged LGPL software under another licence.

Targeted software of Permissive for Inclusion licences

Permissive for Inclusion licences such as LGPL target libraries of software, which are indeed designed to be incorporated unchanged into larger programmes. LGPL is also frequently used for non-library software when there is a particular concern from the licensor that the obligation to release the source of a work incorporating unchanged the GPL-licensed software would seriously hamper its wide adoption.

As with Copyleft licences, Permissive for Inclusion licences, which prevent modified versions from being distributed under a proprietary licence, are intended to ensure the non-appropriation by third parties of the Open Source software.

2.4 Permissive for Inclusion and Modification licences

Philosophy of Permissive for Inclusion and Modification licences

Such licences are sometimes called “Permissive in composition and derivation” licences.

Such licences allow the distribution under a different licence of any work incorporating the Open Source Software as well as of any modified versions or any work incorporating modified versions. This different licence may be a proprietary licence.

Apache v2 is one of the most widely used Permissive for Inclusion and Modification licence.

The only obligations for the licensee of Apache-licensed software are to respect certain conditions for perpetuating the initial IP statements and listing the modifications.

Third-party appropriation with Permissive for Inclusion and Modification licences

As any user may modify the Apache-licensed software and distribute the resulting work under a proprietary licence, Apache, unlike GPL, EUPL and LGPL, is said to permit the appropriation by third-parties of the Open Source software.

Commercial Exploitation

As all permissions for appropriation have been given to any third party, including to commercial companies, commercial exploitation by dual licensing becomes less interesting. This is in contrast with Copyleft and Permissive for Inclusion licences.

3 Other recommendations

3.1 Recommendation concerning Collaboration Agreements

For software developed in collaboration with external partners (Class 3 and Class 4), whenever possible, a *Collaboration Agreement* should be established at the inception of the collaborative activity.

- The Collaboration Agreement should specify which licence will be used for the jointly-developed software
- It should also cover Governance aspects related to the software, in particular, how will decisions be taken for:
 - Accepting new members in the collaboration
 - Changing to a different licence, for part or all of the jointly developed software
 - Deciding on new version releases
 - Defining a “prime owner”
- The Collaboration Agreement may also define a “prime distributor” of the software. A prime distributor is an organization, member of the collaboration tasked by the Collaboration to create and make available in an orderly fashion future releases of the software.
 - The concept of “prime distributor” is useful in many collaborations, in particular to provide a clear source of commonly agreed versions and avoid multiplication of conflicting source repositories.
 - The concept of “prime distributor” is, however, sensitive and may create tension between the partners as singling out one of the participating organizations. It should not be detrimental to the collaborative spirit of the Collaboration.
 - If CERN is the “prime distributor”, incorporation of third-party modifications by CERN in future distribution releases may require that the owner of the modifications transfer their copyright to CERN. The reason is that it may become excessively difficult for the prime manager, especially over time, to maintain versions including components that cannot be modified, or even for which the owner is no longer able to be contacted.

3.2 Chart of proposed decision-making process for Open Source licence

The decision-making process below has been prototyped in the IT Department. In certain Departments, it may need to be adapted as it assumes a central involvement of the Departmental KT officer.

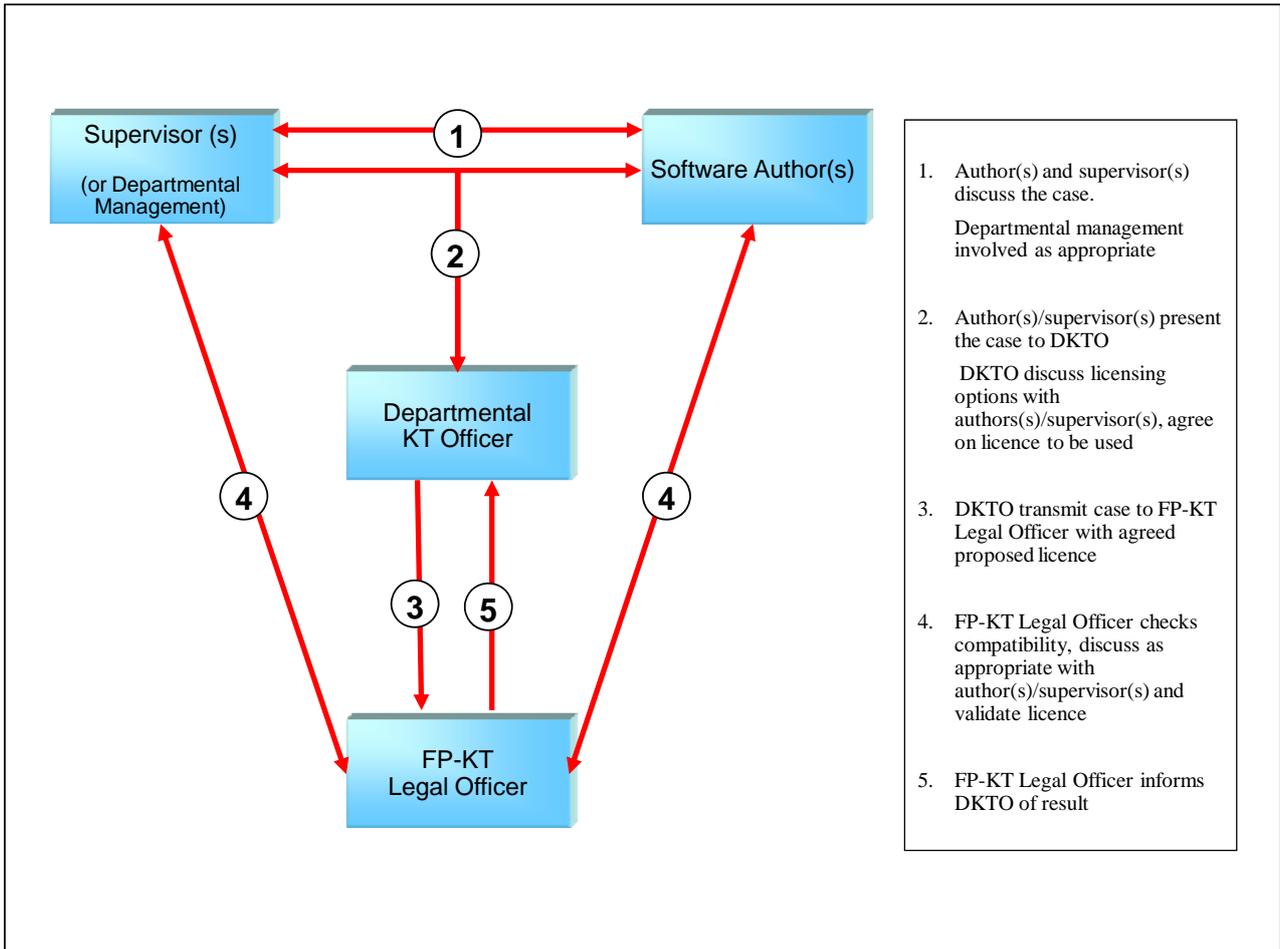


Figure 2: Proposed decision making process for Open Source licence cases