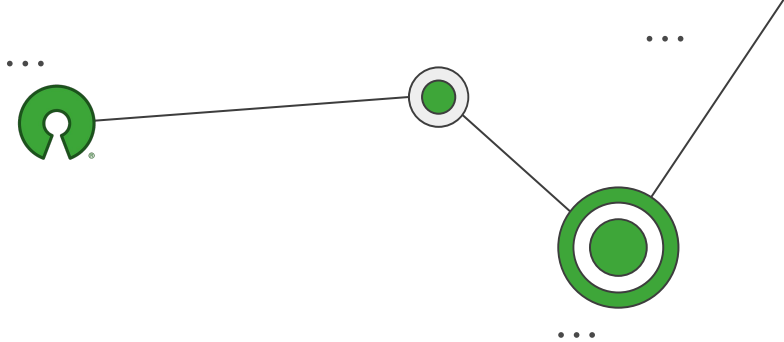


Open Source Initiative

Open Source 101

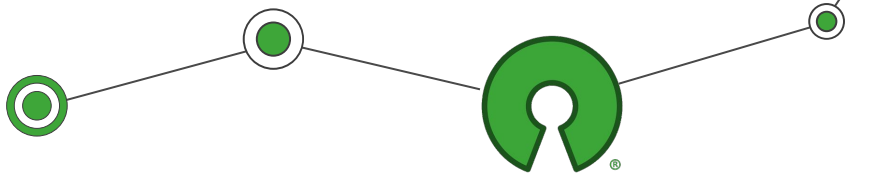
McCoy Smith
Open Source Initiative

01
Fundamentals

What is Open Source?

Open Source software is software distributed under a license that complies with the Open Source Definition (OSD).

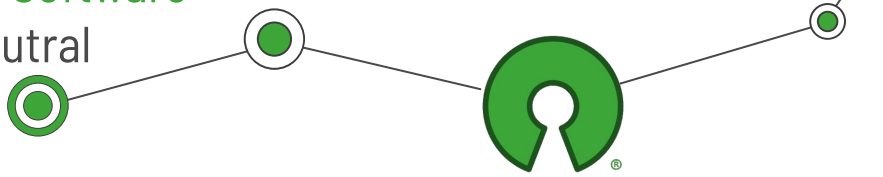
In plain terms, Open Source software can be **used, studied, modified, and shared** by anyone without needing further approval from its original authors.



Open Source Definition

https://opensource.org/osd/

1. Free Redistribution
2. Source Code
3. Derived Works
4. Integrity of The Author's Source Code
5. No Discrimination Against Persons or Groups
6. No Discrimination Against Fields of Endeavor
7. Distribution of License
8. License Must Not Be Specific to a Product
9. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral

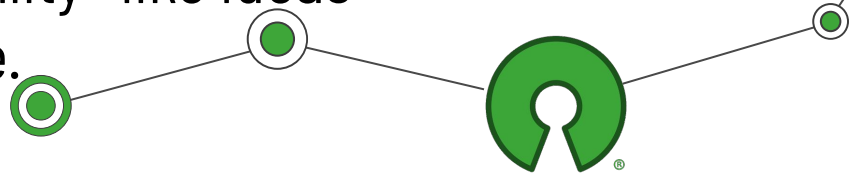


What is copyright?

Copyright is a legal framework that protects original works of authorship

In the context of software, the author (or copyright holder) has the exclusive legal right to control how the code is used, copied, modified, and distributed.

Copyright protects the *expression* of ideas, but not the underlying *functionality* like ideas implemented by the software.



What is a patent?

Patents are intellectual property rights that cover inventions implemented in a piece of technology. For software, that could be specific techniques or technological solutions executed by a computer program.

A patent, in general, protects *functionality*, which is fundamentally different from what copyright protects, *expression.*

What is a license?

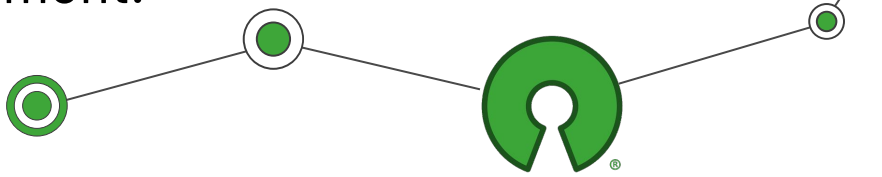
A software license is a legal instrument that tells others what they can and can't do with the intellectual property rights contained in a piece of software.

If you want others to use, study, share, or change your software, you must include a license granting those rights. A license is your explicit permission (under certain conditions) for for how someone may make use of your copyrighted software.

What is copyleft?

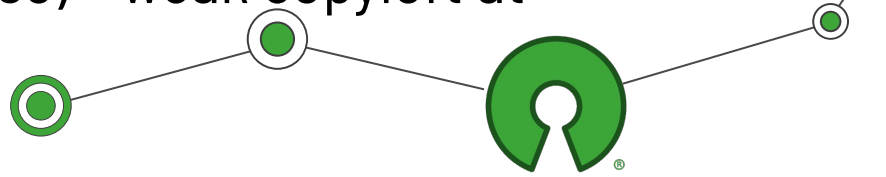
A copyleft license allows anyone to use, study, modify, and redistribute the code (like any open source license) but requires that any redistribution of the code, or any works derived from it, be released under the same license.

In essence, copyleft ensures that the code remains free and open in all derivative works. It is a self-perpetuating legal instrument.



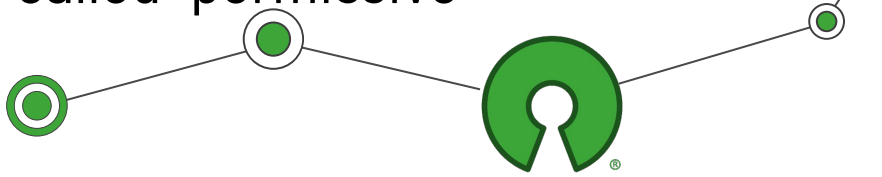
Copyleft (reciprocal) licenses

- GPL (GNU General Public License) – strong copyleft.
- AGPL (GNU Affero GPL) – strong copyleft with network clause.
- LGPL (GNU Lesser GPL) – weak copyleft. Provides exceptions where in certain circumstances license is *not* self-perpetuating
- MPL (Mozilla Public License) – weak copyleft at file level.



Non-copyleft open source licenses

- MIT License: Short and simple license; only obligation is to preserve attribution (and provide a copy of the license.
- BSD License: Many variants (4-Clause, 3-Clause, 2-Clause), similar to MIT in terms.
- Apache License 2.0: longer and more explicit. Grants an explicit patent license from contributors to user.
- This category sometimes called “permissive” licenses

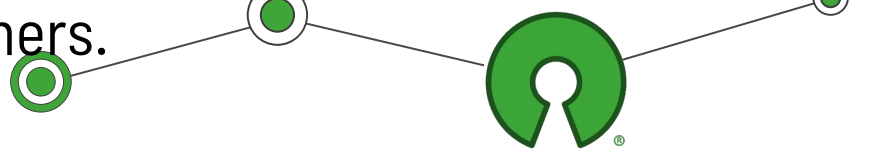


What's dual licensing?

Dual licensing means releasing your software under two (or more) different licenses.

Typically, one of those is an open source license and the other is a proprietary/commercial license. Sometimes also copyleft/permissive

It's a common business model that allows to get community adoption, while also offering a separate proprietary license to customers.



02

Current state of open source licensing

Recently approved licenses

CNRI-Python-GPL-Compatible

Curl License

Python-2.0.1

NIST Software License

All recently approved as “Legacy” licenses: existing licenses, with certain community adoption, which had not been through the approval process

Interesting Licenses in the Pipeline

ModelGo AI family of licenses

OpenMDW licences

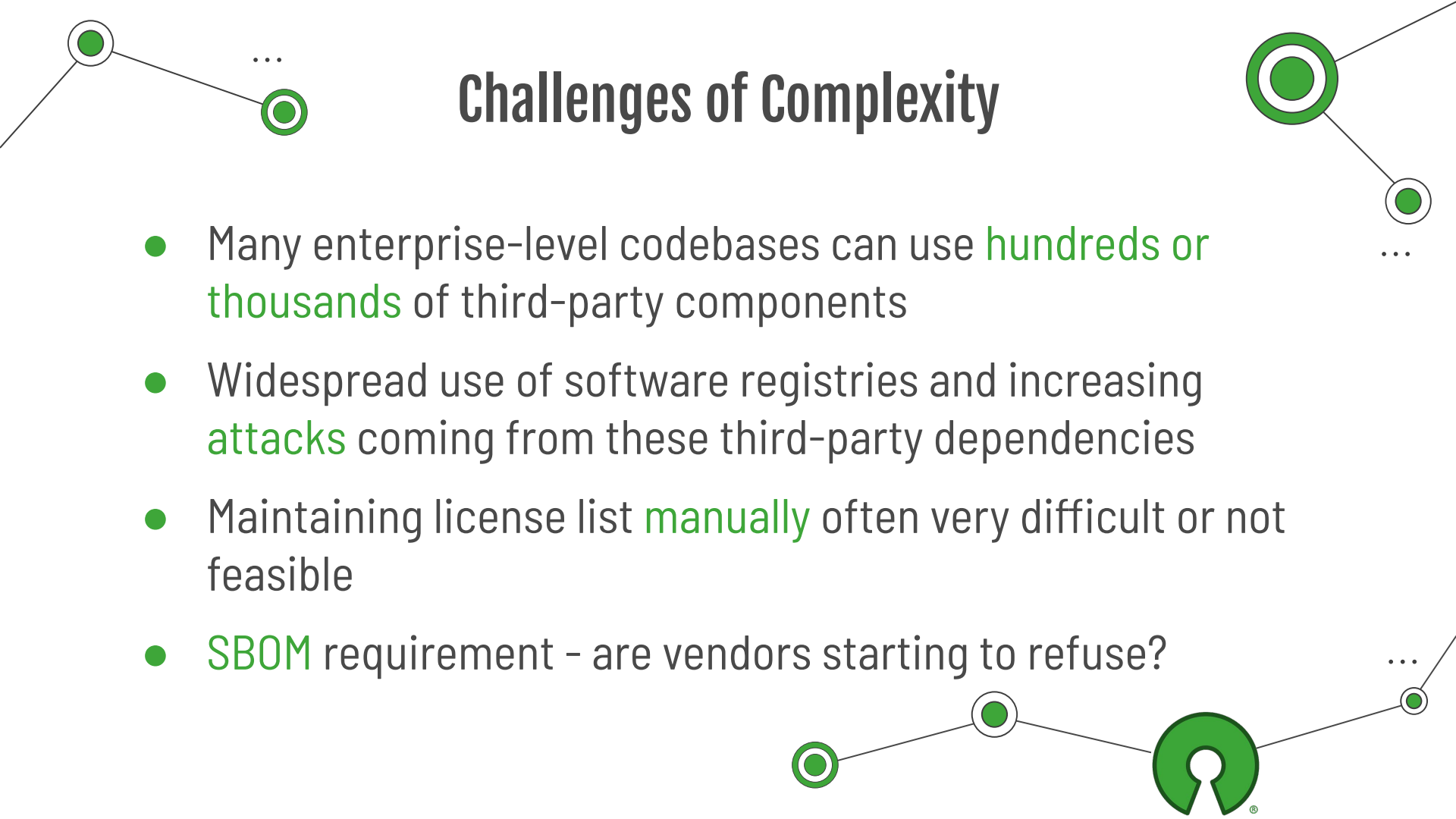
Intended specifically for use for AI models, still pending

03

Top issues in licensing

Challenges of Complexity

- Many enterprise-level codebases can use hundreds or thousands of third-party components
- Widespread use of software registries and increasing attacks coming from these third-party dependencies
- Maintaining license list manually often very difficult or not feasible
- SBOM requirement - are vendors starting to refuse?



License compatibility

- Licenses are “incompatible” when one cannot comply with both licenses at the same time
- Easiest example is GPL, “***You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy.***”
- How significant a concern is it? (see GPLv2 v. Apache)
- May require a technical/legal deep dive to figure it out

License compatibility

		I want to license my code under:					
		GPLv2 only	**GPLv2 or later**	**GPLv3 or later**	**LGPLv2.1 only**	**LGPLv2.1 or later**	**LGPLv3 or later**
I want to copy code under:	**GPLv2 only**	OK	OK [2]	NO	OK: Combination is under GPLv2 only [7]	OK: Combination is under GPLv2 only [7] [2]	NO
	GPLv2 or later	OK [1]	OK	OK	OK: Combination is under GPLv2 or later [7]	OK: Combination is under GPLv2 or later [7]	OK: Combination is under GPLv3 [8]
	GPLv3	NO	OK: Combination is under GPLv3 [3]	OK	OK: Combination is under GPLv3 [7]	OK: Combination is under GPLv3 [7]	OK: Combination is under GPLv3 [8]
	LGPLv2.1 only	OK: Convey copied code under GPLv2 [7]	OK: Convey copied code under GPLv2 or later [7]	OK: Convey copied code under GPLv3 or later [7]	OK	OK [6]	OK: Convey copied code under GPLv3 [7][8]
	LGPLv2.1 or later	OK: Convey copied code under GPLv2 [7][1]	OK: Convey copied code under GPLv2 or later [7]	OK: Convey code under GPLv3 or later [7]	OK [5]	OK	OK
	LGPLv3	NO	OK: Combination is under GPLv3 [8][3]	OK: Combination is under GPLv3 [8]	OK: Combination is under GPLv3 [7][8]	OK: Combination is under LGPLv3 [4]	OK: Combination is under LGPLv3
I want to use a library under:	**GPLv2 only**	OK	OK [2]	NO	OK: Combination is under GPLv2 only [7]	OK: Combination is under GPLv2 only [7] [2]	NO
	GPLv2 or later	OK [1]	OK	OK	OK: Combination is under GPLv2 or later [7]	OK: Combination is under GPLv2 or later [7]	OK: Combination is under GPLv3 [8]
	GPLv3	NO	OK: Combination is under GPLv3 [3]	OK	OK: Combination is under GPLv3 [7]	OK: Combination is under GPLv3 [7]	OK: Combination is under GPLv3 [8]
	LGPLv2.1 only	OK	OK	OK	OK	OK	OK
	LGPLv2.1 or later	OK	OK	OK	OK	OK	OK
	LGPLv3	NO	OK: Combination is under GPLv3 [9]	OK	OK	OK	OK

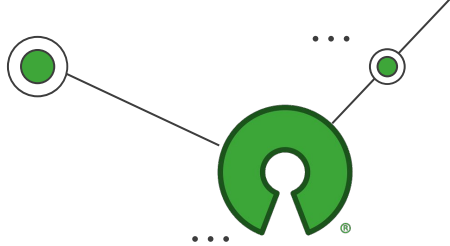
https://www.gnu.org/licenses/gpl-faq.html#AllCompatibility

SFC v. Vizio*

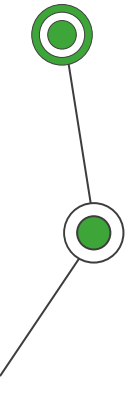
- Software Freedom Conservancy sued Vizio for Vizio's failure to provide source code for 24 GPLv2 and LGPLv2 components
- SFC is suing as a purchaser of the televisions, not a copyright owner, and a third party beneficiary of the GPL, as well as other theories
- The prayer for relief asks only for the source code, no monetary damages
- The trial is scheduled for January 2027

*I am involved in this lawsuit on behalf of SFC

Containers



- A container image may have poor or incomplete documentation of licenses, making your compliance upon redistribution more challenging
- A container image is likely to include Linux or other open source components - how will you provide the source code?



04

Licensing and AI

Open Source AI Definition 1.0

An Open Source AI is an AI system made available under terms and in a way that grant the freedoms to:

- Use the system for any purpose and without having to ask for permission.
- Study how the system works and inspect its components.
- Modify the system for any purpose, including to change its output.
- Share the system for others to use with or without modifications, for any purpose.

These freedoms apply both to a fully functional system and to discrete elements of a system. A precondition to exercising these freedoms is to have access to the preferred form to make modifications to the system.

Open Source AI Definition 1.0

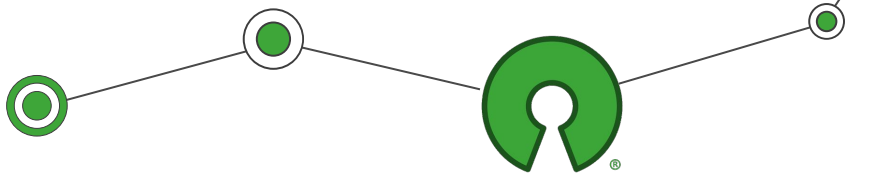
The preferred form of making modifications to a machine-learning system must include all the elements below:

- Data Information: Sufficiently detailed information about the data used to train the system so that a skilled person can build a substantially equivalent system. Data Information shall be made available under OSI-approved terms.
- Code: The complete source code used to train and run the system. The Code shall represent the full specification of how the data was processed and filtered, and how the training was done. Code shall be made available under OSI-approved licenses.
- Parameters: The model parameters, such as weights or other configuration settings. Parameters shall be made available under OSI-approved terms.

Open Source AI Licenses

"The OSI will certify licenses that are both compatible the OSAID and compliant with the OSD, but adopting a certified license does not mean that the subject matter to which the license is applied is OSAID-complaint. The use of the licenses is a necessary, but not a sufficient, condition for meeting the Open Source AI Definition."

Open Source Initiative



2023

Ethical source license

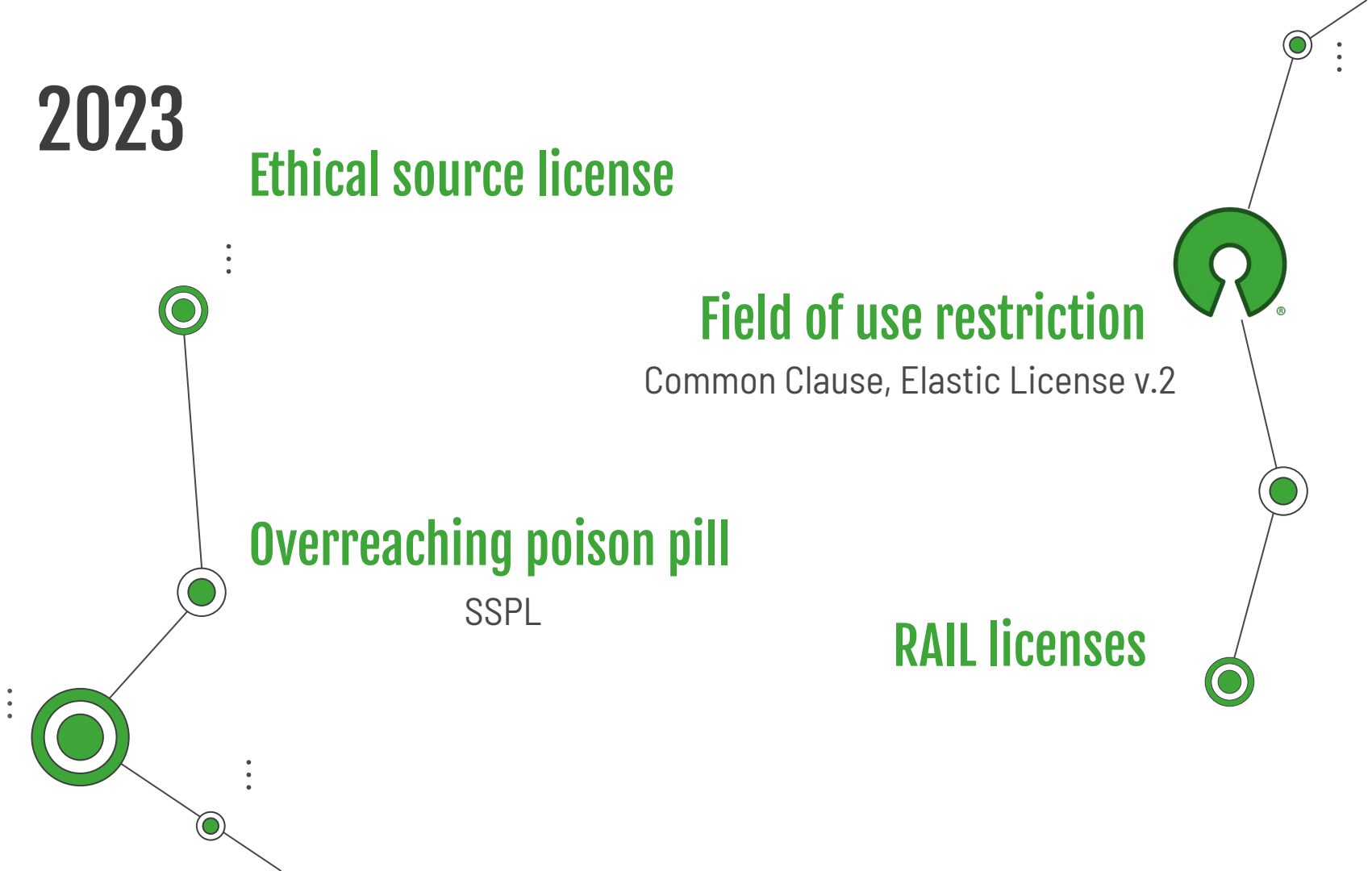
Field of use restriction

Common Clause, Elastic License v.2

Overreaching poison pill

SSPL

RAIL licenses



2025

Ethical source license

Many, many AI licenses

Field of use restriction

Llama License and others

Overreaching poison pill

SSPL

RAIL licenses



05
License review process

Requirements for approval

- ➔ The license must be reusable, meaning that it can be used by any licensor without changing the terms or having the terms achieve a different result for a different licensor.
- ➔ The license does not have terms that structurally put the licensor in a more favored position than any licensee.
  - To the extent that any terms are ambiguous, the ambiguity must not have a material effect on the application of the license.
  - It must be grammatically and syntactically clear to a speaker of the language of the license.
  - Every possible variation of the application of the license must meet the OSD.
- ➔ It must be possible to comply with the license on submission. As an example, given the scope of copyleft in the SSPL, it is not a license that anyone currently would be able to comply with.
  - The license must fill a gap that currently existing licenses do not fill.

But ultimately the OSI Board decides

Requirements like this are why it just impossible for the OSI to describe everything that makes a license unacceptable, because there's no limit to the human imagination. Instead it is, I think rightly, within the OSI's discretion to make the judgment call based on a holistic view of whether the license advances or inhibits the adoption and use of open source software.

– Pamela Chestek (post-Board)

References

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- FOSSA, *Containers and Open Source License Compliance*, https://fossa.com/blog/containers-open-source-license-compliance/
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- License review list archives, https://lists.opensource.org/pipermail/license-review_lists.opensource.org/
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- Software Freedom Conservancy, *Software Freedom Conservancy files right-to-repair lawsuit*, https://sfconservancy.org/copyleft-compliance/vizio.html
- VMWare Open Source Blog, *Why You Need to Track Your Container Image Licenses – And How to Do It*, https://blogs.vmware.com/opensource/2019/04/18/tracking-container-image-licenses/
- Wikipedia, XZ Utils Backdoor, https://en.wikipedia.org/wiki/XZ_Utils_backdoor

Thanks!

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