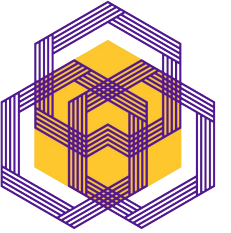


3Os and IP awareness raising for collaborative ecosystems



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# LEGAL ASPECTS OF OPEN SOURCE SOLUTIONS: A BUSINESS PERSPECTIVE

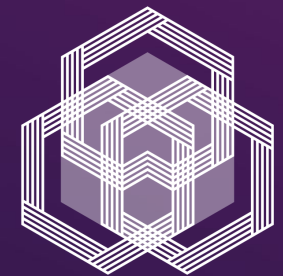
EIT Manufacturing



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# AGENDA

- Introduction to Legal Complexities of Open Source
- Understanding Licensing Terms
- Licensing compatibility
- Types of Open Source Licenses
- IP and License Management
- Recommendations and tips for businesses to deal with the legal aspects of open source solutions



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# THE MAIN OBJECTIVES OF THIS COURSE



Understand the legal aspects of open source solutions and why they are relevant for businesses



Identify and explain the main legal complexities and challenges that businesses may face when using open source solutions



Describe and compare the main types of open source licenses and their implications for businesses



Explain how businesses can manage their intellectual property and licenses when using open source solutions





# BACKGROUND



Open source solutions are software products or services developed, distributed, and modified under an open source license, granting users access to the source code.



Benefits of open source solutions for businesses include lower costs, faster innovation, higher quality, greater flexibility, and wider collaboration.



Legal aspects of open source solutions for businesses involve understanding open source licenses, compatibility and compliance issues, liability in case of infringement, and IP and license management.



Businesses need to be aware of open source licenses' terms, license compatibility, enforcement issues, and IP management when using or contributing to open source solutions.

## LEGAL COMPLEXITIES OF OPEN SOURCE

1

Open source solutions entail unique legal considerations for businesses, such as compliance with specific software licenses.

2

The legal framework of open source software can be intricate, requiring a good understanding of licensing terms and intellectual property rights.

3

Businesses need to navigate the legal nuances of open source solutions to ensure compliance and mitigate risks.

## UNDERSTANDING LICENSING TERMS

### What are licensing terms?

- Licensing terms define how the software can be used, modified, and distributed.
- They outline the boundaries within which businesses must operate when utilizing open source solutions.

### Key aspects of licensing terms

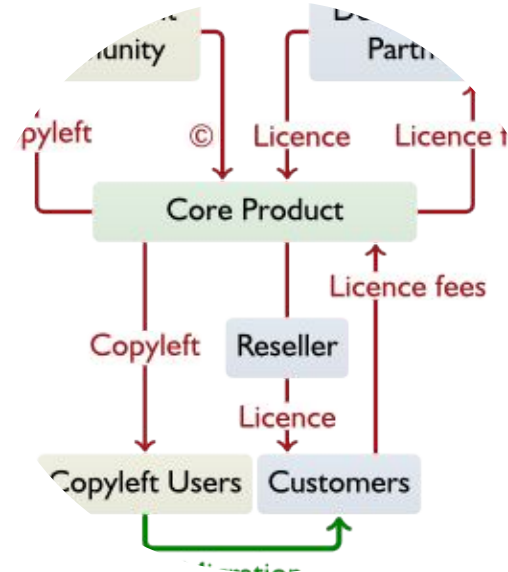
- Importance of understanding the specific terms like attribution, share-alike, and others.
- Implications of the licensing terms on the proprietary software, if integrated.

# LICENSING COMPATIBILITY



## License Types

Licenses can be compatible, allowing mixing without conflict, or incompatible, leading to conflicting obligations.



## Copyleft vs. Permissive

Some licenses, like copyleft, mandate similar licensing for derivative works, while permissive licenses offer more flexibility.

between  
(insert name)  
and  
(insert name)

This agreement is hereby entered into this \_\_\_\_ day of \_\_\_\_\_, 19\_\_ between  
(insert name) of (insert location) hereafter called the "Sponsor", and  
(insert name) hereafter called the "IC".

This agreement serves for the provision of an (insert program) program to be held at the (insert location of program).  
The starting date of the course is \_\_\_\_\_ and the ending date is \_\_\_\_\_

The said parties, for the consideration hereinafter mentioned, hereby agree to the following:

1. The IC is being engaged by the Sponsor to act as its "Primary Instructor/Coordinator or Course Coordinator" whose major duties and responsibilities are outlined and described by the Sponsor in the description attached as Section 2. The Sponsor's Responsibilities are outlined in Section 1.
2. It is recognized that the IC is an independent agent and not an employee of the Sponsor.
3. It is recognized that this is not an exclusive agreement for services between the Sponsor and the IC, and that either party may enter into such additional agreements for similar services as is required.
4. This agreement may be canceled by either party with or without cause by providing ninety (90) days written notice from one party to the other.
5. This agreement may not be assigned by either party to any third party.
6. Any subcontracting of work to be performed under this agreement shall be subject to the advanced written approval of the Sponsor.
7. The (insert name) agrees to indemnify and hold the (IC) harmless from and against all claims, damages, losses and expenses (including, but not limited to, attorney fees) arising out of the performance of this agreement.
8. Materials produced to meet the conditions of this agreement and/or for use in programs offered under this agreement, are the property of the Sponsor.
9. Programs offered under this agreement must be financially self supporting unless otherwise stipulated by the Sponsor. The course budget must be approved by the Sponsor along with prior approval for expenditures.

This agreement shall be governed by and interpreted under the laws of the State of Michigan.  
This agreement may be amended in writing by mutual agreement between the parties.

## Business Considerations

Businesses must verify license compatibility when using open source solutions to avoid legal disputes or liabilities.

## COMPLIANCE



### Attribution

Businesses must credit the original author of open source solutions and share the license details.



### Non-commercial

Commercial use or charging fees for open source solutions may be restricted.



### Distribution

Businesses may have to share source code, binary code, or derivative works along with licenses.



### Warranty and liability

No warranties or guarantees are provided for open source solutions, and liability is limited.



### Modification

Businesses should document and license any changes made to open source solutions.



### Legal Compliance

Businesses must adhere to open source license terms to avoid legal issues.

## OPEN SOURCE RISKS



### Errors and Vulnerabilities

Open source solutions may have errors, defects, vulnerabilities, or malicious code, impacting quality, performance, or security.



### Legal Claims

Businesses may face legal claims or disputes from third parties related to open source usage.



### Liability for Damages

Liability for damages, losses, legal costs, or fees due to open source risks may fall on businesses.



### Enforceability of Disclaimers

Warranty or liability disclaimers in open source licenses may not always be enforceable or effective.

## ENFORCEMENT



### Enforcement Actions

Enforcement actions for open source violations may include injunctions, damages, costs, and criminal sanctions.



### Defending Rights Challenges

Challenges in defending open source rights stem from legal complexity and jurisdictional issues in licensing.



### License Terms Enforcement

Original authors and users have the right to enforce license terms and seek remedies for infringements in open source.



### Business Uncertainty

Businesses may face uncertainty in defending against enforcement due to diversity in the legal frameworks surrounding open source violations.

## OPEN SOURCE LICENSING EXAMPLES

### IBM Open Source Solutions

Resolved licensing compatibility issues among GPL, EPL, and CPL licenses to ensure legal compliance in open source projects.

### Google Open Source Compliance

Ensured compliance with GPL for Linux kernel and Apache License for Android OS to meet legal requirements in open source usage.

### Red Hat Linux Distribution

Provided warranties, indemnities, patent pool, and promises to protect customers from liability in their Linux distribution.

### BusyBox Software Utility

Enforced GPL terms against companies violating source code disclosure and attribution requirements in their software utility.

## DEEP DIVE REFERENCES

Baldwin, C. Y., & Clark, K. B. (2006)

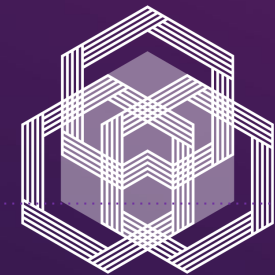
The architecture of participation: Does code architecture mitigate free riding in the open source development model?

Pisano, G. P. (2006)

Profiting from innovation and the intellectual property revolution.

Stewart, K. J., Ammeter, A. P., & Maruping, L. M. (2006)

Impacts of license choice and organizational sponsorship on user interest and development activity in open source software projects.



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## OPEN SOURCE LICENSES

- Open source licenses are legal instruments that define the terms and conditions of the use, modification, and distribution of open source solutions.
- They grant certain rights and impose certain obligations or restrictions on the users of the open source solutions.
- There are many types of open source licenses, but they can be broadly classified into two main categories:
  - Permissive
  - Copyleft

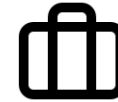


## PERMISSIVE LICENSES



### Definition

Permissive licenses grant maximum freedom to use, modify, and distribute open source solutions with minimal obligations. Examples include MIT, Apache, and BSD licenses.



### Benefits for Businesses

Permissive licenses offer lower costs, faster innovation, and collaboration while protecting intellectual property and enabling revenue generation.



### Challenges

Drawbacks include potential revenue loss, lack of reciprocity, support challenges, and competition from other users or third parties.



### Compatibility and Interoperability

Permissive licenses facilitate compatibility with other open source or proprietary solutions, reducing legal risks associated with licensing.

## COPYLEFT LICENSES



### Definition

Copyleft licenses grant users the freedom to use, modify, and distribute open source solutions, with the obligation to keep them under the same or compatible license.



### Benefits

Suitable for promoting openness, fostering a community of users and contributors, ensuring reciprocity, and preventing appropriation by third parties.



### Examples

Examples of copyleft licenses include GNU General Public License (GPL), GNU Lesser General Public License (LGPL), and Mozilla Public License (MPL).



### Challenges

Challenges include limitations on intellectual property rights, revenue model restrictions, compliance difficulties, and possible conflicts with other solutions.

## EXAMPLES OF LICENSE USAGE

### Permissive Licenses

Netflix chose to utilize the Spring Framework, which is licensed under the Apache License. This licensing model granted Netflix the freedom to utilize, modify, and distribute the framework without facing significant restrictions.

### Copyleft Licenses

Red Hat, for example, employed the Linux operating system under the GPL (General Public License). This required Red Hat to disclose the source code and maintain the same licensing terms for anyone receiving the software.

### Reciprocal Licenses

MongoDB made a strategic shift to the SSPL (Server Side Public License) as a response to concerns about cloud service providers like AWS. The SSPL was implemented to ensure that MongoDB is not offered as a service without proper contributions or fees being paid, especially by large cloud platforms.

## RECIPROCAL



### Definition

Open source licenses that allow users to use, modify, and distribute software or hardware under the condition of sharing the source code and applying the same license to derivatives.



### Suitability

Ideal for businesses safeguarding open source solutions and preventing exploitation or commercialization of products.



### Examples

GNU Affero General Public License (AGPL) and Commons Clause License are examples of reciprocal licenses.



### Application

Ensures recipients receive source code and adhere to license terms when using or modifying the software or hardware.

## DEEP DIVE REFERENCES

German, D. M., &  
Hassan, A. E. (2010)

License integration patterns: Addressing license mismatches in component-based development.

Kapitsaki, G. M., &  
Vassiliadis, S. (2019)

A survey on licensing in open source software.

Viseur, R. (2012)

Open hardware licenses: A comprehensive survey.



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## IP AND LICENSE MANAGEMENT: STEPS AND STRATEGIES FOR BUSINESSES



- IP and license management is the process of identifying, protecting, and exploiting the intellectual property and licenses associated with open source solutions.
- It involves choosing, applying, tracking, auditing, and enforcing the open source licenses and the intellectual property rights of the open source solutions or the derivative works based on them.
- IP and license management is crucial for businesses that use or intend to use open source solutions, as it can help them to maximize the benefits, minimize the risks, and comply with the obligations.

## MANAGING INTELLECTUAL PROPERTY AND LICENSES

### 01

Start by Assessing Current IP and License Situation

### 02

Develop Clear Policies for IP Protection and License Management

### 03

Educate Employees on the Importance of IP and License Compliance

### 04

Implement Regular Audits to Ensure Compliance with Licensing Terms

### 05

Establish Processes for Evaluating and Approving the Use of Open Source Solutions

### 06

Create a Strategy for Balancing Proprietary and Open Source Software in the Business Environment

## CHOOSING

### ● Factors to Consider

Compatibility and compliance with existing or potential licenses

Protection of rights for business and open source community

Promotion of innovation and collaboration in open source ecosystem

### ● Selecting the license according to

Alignment with business goals and strategies

Mitigation of legal risks

Enhancement of community engagement

## APPLYING

### ● Actions when Applying Open Source License

Provide the source code and license terms to recipients

Attribute original authors or licensors

Preserve original license for software and derivatives

Provide notices, warranties, disclaimers, or indemnifications

### ● Example of Implementation

Business provides source code and license terms to users

Attributes original authors in the software or hardware

Ensures the original license is maintained for derivatives

Includes necessary notices and warranties for compliance

## TRACKING

### Tools and Methods for Tracking Open Source Solutions and Licenses

Using software inventory or asset management tools to identify and document open source components and licenses in products or services.

Utilizing software scanning or analysis tools to detect and verify embedded open source components and licenses.

Leveraging software repository or version control tools to store and manage source code and license terms of open source components.

### Example Tools and Methods

Software Inventory Tools: e.g., Snipe-IT, ManageEngine

Scanning Tools: e.g., Black Duck, Snyk

Repository Tools: e.g., Git, SVN

## AUDITING

### ● Internal and Self-Audits

Perform self-audits to assess compliance with open source licenses.

Evaluate the compatibility of open source solutions with business needs.

Identify and correct discrepancies in open source components or licenses.

### ● External Audits and Resolutions

Participate in third-party audits to validate compliance and compatibility.

Resolve audit discrepancies by updating open source components.

Negotiate or settle disputes arising from audit findings.

## EXAMPLES OF LICENSE MANAGEMENT

### Choosing

Google chose a combination of open source licenses like Apache License, GPL, and LGPL for the Android operating system to balance flexibility, compatibility, openness, and collaboration.

### Applying

IBM applied the Eclipse Public License (EPL) to the Eclipse project, requiring source code sharing, preserving license terms, attributing original authors, and providing notices and warranties.

### Tracking

Microsoft implemented the OSS Compliance Program to identify, document, and manage open source components and licenses in software products like Windows, Azure, and Visual Studio.

### Auditing

SAP established the Open Source Program Office (OSPO) to review, evaluate, and ensure compliance with open source licenses in software products like HANA database, Business Suite ERP system, and Cloud Platform, conducting self-audits and participating in external audits.

## DEEP DIVE REFERENCES

Earle, P. C., Gulker, M., & Stringham, E. P. (1999)

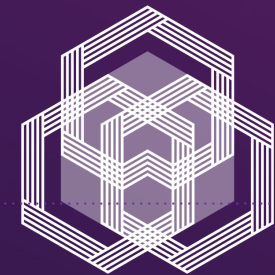
Open source software: The new intellectual property paradigm.

Di Penta, M., Capiluppi, A., & Boldyreff, C. (2010)

Evolving open source systems: how the development process affects the software structure.

Rossi, C., Bonaccorsi, A., Giannangeli, S., & Merito, M. (2006)

Licensing schemes in the production and distribution of open source software. An empirical investigation.



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# KEY TAKEAWAYS

Businesses can benefit from using open source solutions, but must be mindful of legal complexities and licensing terms.

Understanding the types of open source licenses is crucial, with implications for how the software can be used, modified, and distributed.

Effective intellectual property and license management is essential for businesses, including startups and SMEs.

Recommended actions for businesses include establishing clear policies, tracking and auditing open source use, and seeking legal guidance when necessary.

## RECOMMENDATIONS AND TIPS FOR BUSINESSES TO DEAL WITH THE LEGAL ASPECTS OF OPEN SOURCE SOLUTIONS

Conduct regular analysis of open source solutions and licenses to identify potential legal issues or risks.

Consult with legal experts for advice on handling legal issues related to open source solutions.

Establish clear policies for use, modification, and distribution of open source solutions ensuring compliance with licenses and laws.

Engage with the open source community and authors to respect their rights and contributions.