Intersections of patents and open-source software

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HALL LAW

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Presentation Overview

1. Patent clauses in open-source licenses
2. Estoppel and implied licenses
3. Patent litigation considerations
4. Community patent licensing
1. Patent Clauses in Open-Source Licenses
Patent clauses in open-source licenses generally fall into one of three categories:

a) patent licenses (or covenants not to sue);

b) retaliation clauses (aka defensive termination);

c) other unique patent clauses
a) **Patent licenses** (and covenants not to sue)

Distinguishing features:

i. Who grants the license?

ii. Which patents are included in the license?

iii. Which activities are permitted by the license?
Who grants the patent license?

Generally, only contributors to the licensed open-source software grant patent licenses.

However, copyleft licenses require that certain third-party software combined with the copyleft software be made available to recipients in source code form under the terms of the same copyleft license.

This copyleft or “tainting” effect can covert open source distributors and hosted users into copyleft contributors.
### Categories of Open-Source Licenses

<table>
<thead>
<tr>
<th>FOSS License Category</th>
<th>Intended copyleft effect</th>
<th>Examples of open-source licenses w/ explicit patent grants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissive</td>
<td>none.</td>
<td>Apache-2.0, Ms-PL</td>
</tr>
<tr>
<td>Weak Copyleft</td>
<td>modifications to open-source software</td>
<td>CDDL-1.0, MPL-1.1, LGPL-3.0, CPL-1.0</td>
</tr>
<tr>
<td>Strong Copyleft</td>
<td>modifications to and derivative works of open-source software</td>
<td>GPL-3.0, AGPL-3.0</td>
</tr>
</tbody>
</table>
Distributor Examples

(1) Pass-Through Distributor

- Original Contributors
- No modifications
- No combinations with third-party code

Recipients / End Users

(2) Modifying Distributor

- Original Contributors
- Introduces modifications or software combinations subject to copyleft effect

Recipients / End Users

1. Patent Terms in Open Source Licenses
   > Patent licenses and covenants not to sue
Who grants a patent license?

Generally, a downstream open-source distributor or hosted user won’t grant patent licenses covering the open-source *unless* they become a **copyleft contributor**.

<table>
<thead>
<tr>
<th>FOSS License Type</th>
<th>Original Contributors</th>
<th>Pass-Through Distributor</th>
<th>Modifying Distributor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissive</td>
<td>Patent license granted</td>
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<td>Weak Copyleft</td>
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</table>
Which contributor patents are included in the patent grant?

Typically include contributor patents infringed by either:

(a) the **contribution alone**; or

(b) the **combination** of the contribution **with the specific version** of the open-source hosted or distributed by the contributor (the “**contributor version**”)

![Diagram showing (a) Modifying Distributor and (b) Contributor Version with MD modifications.](image-url)
Which activities are covered by the contributor license grant?

Typically permit making, using, selling, offering, and importing:

(a) the **contribution alone**; or

(b) the **contribution** in combination with the **contributor version**
Which activities are not covered by the patent license grant?

Patent licenses from contributors do not typically extend to:

(a) Infringement resulting from downstream modification to the contributor version

(b) Infringement resulting from combinations with software or hardware other than the contributor version; and

(c) Claims infringed by the open-source software in the absence of the contribution.
### Patent Terms in Open Source Licenses

Patent licenses and covenants not to sue

<table>
<thead>
<tr>
<th>Patent License From:</th>
<th>Typical license covers:</th>
<th>License unlikely to cover infringement based on or resulting from</th>
</tr>
</thead>
</table>
| **Original Contributor** | • Contributions to open source project code  
• Contributions combined with open source project code | • MD modifications  
• MD contributor version  
• Other downstream modifications |
| **Modifying Distributor** | • MD modifications  
• MD contributor version | • OSPC infringement absent MD modifications  
• Further downstream modifications |

- **Open Source Project Code**
- **MD Contributor Version**
- **Recipients / End Users**
b) **Retaliation clauses (aka defensive termination)**

- Terminate rights granted in response to an open-source licensee bringing a prohibited infringement claim.
- Apply *regardless* of copyleft considerations.
- Open-source users may be forced to choose between:
  1. continuing hosted use or distribution of the open-source software; and
  2. pursuing a patent claim against a contributor or based on the open source software.
Distinguishing features of retaliation clauses:

i. Which infringement claims trigger the clause?

ii. Which granted rights are lost?

iii. Is the termination automatic?

iv. Is the termination curable?
Which infringement claims trigger retaliation?

**Patent infringement claims** asserted:

- against a contributor, based on licensed open-source \((e.g.,\text{ CDDL-1.0})\)
- against anyone, based on licensed open-source \((e.g.,\text{ Apache-2.0; CPL-1.0})\)
- under **any software patent** (!), based on any contributor software, hardware, or devices \((e.g.,\text{ MPL-1.1})\)

**Patent, copyright, trademark or other infringement claims** asserted based on the licensed open-source \((e.g.,\text{ CPOL-1.02})\)
1. Patent Terms in Open Source Licenses
   > Retaliation clauses (aka defensive termination)

Which rights are lost?

** Patent licenses granted: **
- under the **open-source license**  \( (e.g., \text{Apache-2.0}) \)
- from the **defendant contributor** under the license  \( (e.g., \text{Ms-RL}) \)

** Copyright and patent licenses granted: **
- under the **open-source license**  \( (e.g., \text{CDDL-1.0}) \)
- from the **defendant contributor** under the license  \( (e.g., \text{MPL-1.1}) \)

** All rights** granted under the **open-source license.**  \( (e.g., \text{GPL-3.0}) \)
1. Patent Terms in Open Source Licenses
   > Retaliation clauses (aka defensive termination)

It termination automatic?

**No**, contributors must provide the patent plaintiff with notice of the license termination. *(e.g., MPL-1.1)*

**Yes**, rights terminates automatically. *(e.g., Apache-2.0; Ms-PL)*
Is termination curable?

**No**, terminated rights cannot be automatically restored under the license. *(e.g., CPL-1.0; Apache-2.0)*

**Yes**, terminated rights can be automatically restored by withdrawing the offending claims or through other remedial action. *(e.g., MPL-1.1)*
c) other unique patent clauses:

**GPL-3.0:**

- Licensee patent licenses covering a specific copy of GPL-3.0 code automatically extend to all recipients of the GPL-3.0 code and cover both the GPL-3.0 software and derivative works.

**GPL-2.0/3.0:**

- Licensees may not distribute GPL software under a patent license that does not also permit downstream recipients to exercise the rights granted under the GPL.
2. Estoppel and Implied Licenses
What if an open-source license does not include an explicit patent license grant \(\text{\textit{e.g.}},\) MIT, BSD, GPL-2.0 licenses?\)

Courts might nonetheless find a patent license granted based upon \textit{estoppel} or \textit{implied license} doctrines. For example, courts may find an implied patent license based on:

(i) the patent holder’s \textit{acquiescence} or \textit{conduct};

(ii) \textit{equitable estoppel}, where the patent owner gives consent through statements or conduct and the alleged infringer relies and would otherwise be materially prejudiced; or

(iii) \textit{legal estoppel}, where the patent owner grants a right, receives consideration, and later seeks to detract from the right granted.
Limitations of implied license defenses

› **Fact dependent:**

  o While the precedential pieces may exist for an implied license finding, courts have not explicitly considered such a defense with respect to open-source software.

  o Even if an implied license is found, it may still be difficult to dispose of related patent infringement claims quickly and inexpensively.

› **Limited application:** courts are less likely to find an implied license where patents are specifically addressed in the open-source license (*e.g.*, GPL-2.0).

› **Scope:** if an implied license does exist, what is the scope of the implied license? Does it cover modified or embedded use of the open-source?
3. Patent litigation considerations
Considerations for patent plaintiffs and defendants

Has plaintiff licensed claim embodiments under open-source licenses?

Has plaintiff hosted or distributed copyleft code embodying the claims?

Does the plaintiff commercially license software embodying the claims?

If so, has the plaintiff improperly incorporated copyleft software?

Does the defendant practice the asserted claims using such embodiments?

Do such embodiments offer viable alternatives for practicing the claims?

How do such embodiments impact a reasonable royalty calculation?

Will asserting a patent claim (as a plaintiff or counter-plaintiff) trigger retaliation clauses?
4. Community Patent Licensing
What is community patent licensing?

Community patent licensing refers to companies licensing or pledgeing certain of their patents to specific communities or the general public.

Benefits of community patent licensing can include:

(a) encouraging adoption of preferred standards or foundational company technology; and

(b) assuaging community concerns arising from threatening patents held by the company.
Common forms of community patent licensing include:

› **Offering** to execute **license agreements** with members of the community/public;

› **Patent pledges**, where the company makes a public promise not to assert certain of its patents against the pledged subject matter; and

› **Patent pools**, where the company cross-licenses certain patents with other community members.
### Examples of open-source patent pledges

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</thead>
<tbody>
<tr>
<td><strong>Pledge subject matter:</strong></td>
<td>Software distributed under one of a series of open-source licenses identified by Red Hat.</td>
<td>Open-source software or similarly licensed royalty-free source code</td>
<td>Stable Linux kernels published by kernel.org under the GPL-2.0</td>
<td>Open-source use and distribution Internal open-source use with proprietary technology</td>
</tr>
<tr>
<td><strong>Pledged patents:</strong></td>
<td>all Red Hat patents</td>
<td>specifically identified IBM patents</td>
<td>all Nokia patents with a priority date before 2006</td>
<td>specifically identified Google patents</td>
</tr>
<tr>
<td><strong>Termination right trigger:</strong></td>
<td>software patent claims against Red Hat</td>
<td>patent claims brought against OSS</td>
<td>patent claims against the Linux kernel</td>
<td>patent claims against Google or Google product or services</td>
</tr>
</tbody>
</table>
Open Invention Network: the Linux patent pool.

› Anyone can become an OIN licensee free of charge by entering into the OIN License Agreement. There are currently more than 1,500 OIN licensees.

› OIN licensees grant and receive broad royalty-free patent licenses and releases to and from OIN and all other OIN members and licensees.

› Patent licenses from members and licensees cover “Linux Systems,” a defined term that is periodically revised and updated by OIN as influenced by its members.

› OIN members include Google, IBM, NEC, Philips, Red Hat, Sony, Suse, Canonical, and TomTom.
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Questions?

Let’s connect and geek out on open source!

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**Twitter:** @legallygeeked