Patent Rights and Open Source—Can They Co-exist?

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1. Introduction

A patent gives its owner the right to exclude others from making, using, and selling the claimed invention. Thus, patent rights give a patentee great control over who uses his invention. In contrast, the basic idea behind distributing software under an Open Source license is that anyone should be able to view and use the "source code" of the computer program and modify it for his own purposes. (The source code is the human readable version of the software.) The author of the program must make the source code available to others. Anyone can modify the source code without obtaining permission from the author. A business decision to distribute software under an Open Source license affects how the author of the software may be able to use his patent rights, but does not affect whether he can or should apply for patent protection. A business decision to release software under an open source license (or to incorporate such software in a proprietary product) may grant certain patent licenses to people who receive the software, and the patent owner cannot control who these receivers will be.

2. Defining Open Source Licenses

It is difficult to talk about "Open Source licenses" in the abstract. There are a large number of licenses that have been identified as Open Source (see, for example, http://www.opensource.org/licenses/) and each has its own quirks. One of the most frequently referenced Open Source license that I am asked about most frequently is the Gnu Public License (the GPL). A copy of the gpl can be obtained at http://www.gnu.org/copyleft/gpl.html. This article focuses mainly on the GPL.

The GPL takes the Open Source concept that people should be able to view and use source code one step further, by requiring that any software that is a derivative work of the GPL'd software also be distributed under the GPL. The GPL is a license of copyright rights owned by the original author of a software program. When an original author releases his software under the GPL, he licenses those who receive the software to copy, distribute, and produce derivative works of the software, providing that they then, in turn, release the software and derivative works of the software under the GPL and make available the source code of the software and the derivative works.

The GPL has been interpreted as defining a derivative work of the gpl'd software as modifications of the software and as any software that "links" to the GPL'd software. Thus, the GPL'd software potentially "infects" all software into which it is linked and forces that software also to be distributed under the GPL. Although this definition of derivative work has not been addressed by the courts, it lends enough uncertainty to the use of GPL'd software that many commercial software developers do not use GPL'd software developed by others because of the possibility that doing so would force distribution of the source code for the commercial product under the GPL. (For completeness, I should note that there is also a version of the gpl called the Library (or Lesser) GPL that does not have this infection property.)

Certain entities choose to distribute their original software products under the GPL. For example, the Linux operating system is distributed under the GPL. Thus, companies and individuals can obtain the source code for the Linux operating system and can modify the software as long as they distribute the modified software under the gpl as well.

3. Patent Rights of the Author or Modifier

If a company plans to distribute its software under the GPL, does it make sense to obtain patent protection as well? Open Source licenses, and the GPL in particular, do not bar a software author from obtaining patent protection on inventive aspects of his software. Nor does the GPL bar a programmer from including his patented features when he modifies some one else's software previously distributed under the GPL. BUT, the uses to which patent rights can be put are severely curtailed when software embodying the patented technology is distributed under the GPL.

The Preamble of the GPL states:

"Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all."

It is black-letter patent law that once a patent is granted, a patent owner has the right to exclude other from making using and selling his patented invention if he so chooses. Setting aside any arguments that the Preamble of the GPL is somehow not a part of the license, it seems clear that an author or modifier who distributes software under the gpl cannot assert his patent rights against subsequent users and redistributors of the GPL'd software. Thus, there is at least an implied license to those who receive the GPL'd software in any patents covered by the software.

Why then, would anyone want to obtain a patent on an invention that is going to be distributed under the GPL? There are several reasons: 1) the author may plan to license the patent to others to produce a revenue stream 2) the author may want to assert his patent rights against redistributors who do not conform to the GPL license terms (for example, by failing to redistribute under the GPL) 3) the author may want to have patent rights to use as an offensive or defensive weapon against infringers who are not using the GPL'd software and 4) the author may plan to also distribute a non-GPL'd version of the software. For example, while the author may not be able to use his patent rights against people who receive and redistribute his GPL'd software, the author can use these rights against his competitor who sells a competing product that incorporates the invention that is not a derivative work of the author's original code. According to one reasonable interpretation, the GPL only precludes the patentee from asserting his rights against people who are practicing the invention by using his GPL'd software. People who independently create other software are not subject to this implied license. As an aside, it seems that the author could assert his patent rights against a competitor who is himself releasing independently developed software under the GPL, as long as it is not based on the original author's distribution. The fact that the infringer himself distributes under the GPL is irrelevant as to whether he is infringing patents of others. The original author has not given permission for his competitor to use the patented technology.

4. Existing Licenses

What if the original author or modifier is a patent licensee under an existing license? For example, the original author might have a license from a third party for an invention included in the GPL'd software. For example, the original author may release internet software that incorporates an encryption technology covered by a patent licensed from a third party. If the original author of the GPL'd internet software has been granted the right to sublicense, he may be able to include the patented technology in his GPL'd software, since he can give a sublicense to this GPL'd users. Conversely, of course, the author cannot distribute his software if he cannot sublicense subsequent users. The GPL addresses this issue, saying:

> If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

Thus, if an author does not have the right to sublicense or if the sublicense would require the payment of royalties, the author must chose between not including the patented technology or not releasing the software. Thus, companies planning to distribute GPL'd software should consider whether the software is subject to existing patent licenses. If so, and if sublicensing rights cannot be obtained, the patented technology should not be included in the GPL'd distribution. If there are existing formal license agreements that cover technology in software that a company plans to distribute under the GPL, the existing license should be carefully reviewed to determine whether the license includes the right to sublicense. The converse, of course, is that a patent owner who licenses to another party who has stated its intent to distribute under the GPL should consider whether they want to grant the right to sublicense. In theory, there is no limit to how many other parties will eventually receive the GPL'd software and become sublicensees of the patent.

5. What is the Limit of an Implied License under the GPL?

As discussed above, users and modifiers of GPL'd software have at least an implied license to use patented inventions included in the GPL'd software. The users probably do not, however, have a blanket license to use the invention in other circumstances. Thus, if a programmer who uses GPL'd software develops software that uses the patented invention without using any of the GPL'd software, he arguably does not have a license to use the invention in this manner. If a user copies a portion of the GPL'd software and includes it in this software, he may arguably have a license since his new software is based on gpl'd software.

6. Patents in Non-U.S. Countries

There is no such thing as a worldwide patent. Patents are granted on a country-by-country basis. The GPL states:

If the distribution and/or use of the Program are restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

The GPL seems to be referring to the situation where the patent is owned by a third party. It does not address the possibility that a patent holder and author of the program are the same. This assumption seems correct since, if the patent holder and author are the same entity, the users of the program would have an implied license to use the patented invention and would have an implied license to distribute and modify the software since this is the whole purpose of the gpl. Under those circumstances, the distribution or use would not be restricted.

7. Summary

Because there are no decided court cases interpreting the GPL, there are business risks involved both in releasing software under the GPL and in using software received from others under the GPL. To date, all disputes involving the GPL of which this author is aware have been settled informally out of court. It remains to be seen how courts will interpret the rather vague references to patents in the GPL, but it seems certain that, as more commercial entities begin to incorporate GPL'd code into their products, it is only a matter of time before court cases involving the GPL begin to appear. While some of these cases will involve the copyright law questions raised by the GPL, others will be patent cases, where the GPL is used as a potential defense by infringers who received GPL'd software incorporating the asserted patent. Corporate counsel should be aware of the risks involved in the GPL before making decisions concerning this license.

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