IPR Concerns and Legal Aspects of Open Source Software

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Abstract

This paper has attempted to provide to the reader a relatively detailed introduction to the open source software landscape. It highlights the main characteristics of this technology, which, although has already a long history, is still unknown to many people. The main features of open source software mechanisms which drive the working of open source projects have been exposed, and those which enable these features. The paper also throws light on some notes on the economy of open source and have dealt on how although there is still much to try and discover in this respect, particularly with regard to business models. Some specific impacts on several key aspects of the information technology world have also been discussed. Finally, various legal aspects involving intellectual property rights related to Open Source Software have been included to show the impact of this aspect on open source software.

Keywords: open source software, intellectual property rights, license, proprietary, copyleft.

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The conventional theory of intellectual property (IP) is based on the scheme that makers of intellectual content would have inadequate motivation to initiate if their works could be absolutelyimpersonated. Therefore, the law grants legitimatejurisdiction over recent works in order to intercept, detain, or elevate the price of imitation and therefore invigorate investment in creation.

The escalation in use of open-source software presentsa major confrontation to the definitive explanation of the manufacture of intellectual community goods. Rather than employing IP rights to optimize financial interests, open-source production banks upon IP rights to keep software, and any enhancements or inclusions to it, free and generally available.

The term ‘open source’ refers to anything that can be modified by anyone, as its design or code is made available to everyone, and is publicly accessible. ‘Open Source’ products are generally used for free distribution, supporting open exchange and collaboration between different people who might want to add his/her own ideas to make it better or different.Open source software is computer software in source code form that is licensed to the general public at no charge under a copyright license that conforms to a set of standard criteria known as the Open Source Definition. It is software where the source code is available, and anyone can modify it.Source Code is the part of software where or the program logic is written.Most regular computer users don’t see the source code. However the programmers can see this code to find out how the software is working. They can even modify it to add his/her ideas, and for redistributing. The criteria were developed by the Open Source Initiative (OSI) industry group, a non-profit organization formed to promote and educate on the commercial use of OSS.

There are tens of millions of lines of OSS source code available to developers at no charge. Some of the best known examples of OSS include:

Linux.-A computer operating system based on UNIX, the dominant proprietary operating system for personal and business computing in the 1970s and 1980s.

Mozilla Firefox. A web browser first developed by Mozilla Foundation, a non-profit organization dedicated to promoting openness, innovation and participation on the internet.

OpenOffice- It is an application suite that includes components for creating and editing documents, spreadsheets, presentations, graphics and databases.

Apache HTTP Server- It is widely used web server software that has played an important role in the growth of the internet.

Open Source Software is not free

It is a common misconception to think that open source means free. While OSS is usually available at no charge, it is not actually free. OSS is typically subject to a copyright license by the organization or individual who initially developed the software or is entrusted with enforcing the terms of the applicable license. Generally, OSS licenses permit licensees to use, copy, modify and redistribute the OSS, subject to complying with the disclosure, use, distribution and other relevant obligations and restrictions set out in the license.

The OSI currently lists 67 different OSS licenses on its website. One of the best known OSS licenses is the GNU General Public License (GPL). For examples of key licensee rights and obligations under the GPL. The GPL is the most widely used OSS license. The GPL was implemented in connection with the GNU Project, which was formed in 1983 to encourage the collaborative development of free software, including a full operating system as a replacement to UNIX. The GPL is the first "copyleft" license for general use, which means that derived works can only be distributed under the same license terms.[2]

Any programmer can charge money for open source software they have created or contributed to. But that requires licensing. Most open source softwares are free. Developer usually gives them for free but charges for further service on it.Some examples of Open Source Software arePyMOL: visualization tool for use in structural biology, Blender: used for creating 3D Animations, effects and other 3D computer graphics, GIMP: Image editing and free-form drawing toolApache: most popular web server,Virtual Box: System virtualization, Android.

[2]Brown C, *Copyleft: The disguised copyright*, University of Missouri, Kansas City Law Review.

Reasons for popularity of OSS

Companies originally used OSS as stand-alone software primarily to support their internal operations. Today many companies combine OSS with their proprietary internal management or operations software and include OSS in their customer-facing proprietary software.This is a list of reasons which show why people prefer open source software over others[3]:

1. Lesser hardware costs- Since Linux and open source solutions are easily portable and compressed, it takes lesser hardware power to carry out the same tasks when compared to the hardware power it takes on servers, such as, Solaris, Windows or workstations. With this less hardware power advantage, you can even use cheaper or older hardware and still get the desired results.

2. High-quality software- Open source software is mostly high-quality software. When you use the open source software, the source code is available. Most open source softwares are well-designed. Open source software can also be efficiently used in coding. These reasons make open source software an ideal choice for organizations.

3. No vendor lock-in- IT managers in organizations face constant frustration when dealing with vendor lock-ins'. Lack of portability, expensive license fees and inability to customize software are some of the other disadvantages. Using open source software gives you more freedom and you can effectively address all these disadvantages.

4. Integrated management-By using open source software, you can benefit from integrated management. Open source software uses technologies, such as, common information model (CIM) and web based enterprise management (WBEM). These high-end technologies enable you to integrate and combine server, application, service and workstation management. This integration would result in efficient administration.

[3]http://www.outsource2india.com/software/articles/open-source-software.asp last accessed on March 1, 2015.

5. Simple license management- When you use open source software, you would no longer need to worry about licenses. Open source software enables you to install it several times and also use it from any location. You will be free from monitoring, tracking or counting license compliance.

6. Lower software costs- Using open source software can help you minimize your expenses. You can save on licensing fees and maintenance fees. The only expenses that you would encounter would be expenditure for documentation, media and support.

7. Abundant support-You will get ample support when you use open source software. Open source support is mostly freely available and can be easily accessed through online communities. There are also many software companies that provide free online help and also varied levels of paid support. Most organization who create open source software solutions also provide maintenance and support.

8. Scaling and consolidating- Linux and open source software can be easily scaled. With varied options for clustering, load balancing and open source applications, such as email and database, you can enable your organization to either scale up and achieve higher growth or consolidate and achieve more with less.

Economic factors and Intellectual property related to Open Source Software

The traditional theory of intellectual property is widely known and universally accepted. It is well understood that the creators of intellectual content would have never have sufficient incentive to create if their works could be cheaply and quickly imitated. This is the reason why the law grants legal control over new creations in order to prevent, delay, or raise the cost of imitation and therefore encourage investment in creation.The rise of open-source software poses an important challenge to the classic account of the production of intellectual public goods.[4] Instead of using IP rights to optimize monetary benefit, open-source production depends upon IP rights to keep software, and any improvements or additions to it, free and widely accessible.

[4] Mark A. Lemley, The Economics of Improvement in Intellectual Property Law , 75 Tex L Rev 989, 993-1000

Open-source software is provided to others for free; providers profit, if at all, not by selling the software or improvements to it but by providing consulting or other services.

It has been emphasized that roughly half of all open-source contributors are paid for their contribution, usually by corporate sponsors, though that raises the question of why the corporations are willing to pay that money. [5]

Software patents

Software patents, especially when they are granted for trivial algorithms that can easily be reinvented by many developers, represent a serious threat to individual open source developers and small organizations, who cannot afford the costs of patent litigation. Ironically, the situation is even more crucial for open source software than for black box proprietary software, since the code is directly accessible by the patent holders.[6]

In many cases, companies and individuals are trying to get exclusive right on certain technologies through patents, and recently more and more patents on fundamental algorithms and procedures have been granted, especially in the United States. We believe that this is a potentially dangerous practice, not only for open source software in particular, but for the software industry and software practitioners in general. The relatively long time span of currently issued patents and the breadth of some of them are specially disturbing. Also, there is insufficient control on the existence of previous work, and many patents are issued on obvious and ill-defined concepts. These patents can be used as broad-fire weapons against competitors, especially the smaller ones, unable to afford the costly legal expenses needed to demonstrate that a patent is invalid.

Several clear examples of silly patents have been already exposed by the specialized press. For instance, one of the latest cases is a patent on a `novel' method to correct Y2K problems, using an obvious and widely known technique. Another example is a recently issued patent on an enhancement to the readability of fonts on liquid crystal display, based on sub-pixel addressing. This technique was not only well known and employed widely on the old Apple II computer,

[5]*Proceedings of the First Conference on Freely Redistributable Software*, Cambridge, Massachusetts, USA, February 1996.
6YochaiBenkler, *The Wealth of Networks* (Yale 2006).

which uses a curiously similar system to create on-screen colors, and that enabled to create a double-hires mode using half pixel shifts and single color addressing, but also presented in several papers through the years.

Open source software is especially vulnerable to patent-based attacks, because only a few open source-based companies have the financial power to protect themselves against patent lawsuits. Also, if a patent is issued on a very broad technology or technique it may be impossible to circumvent the patent and create a patent-free alternative

Legal issues

Historically, a very few cases have been brought against licensees for their use of OSS. Recently, however, copyright owners have been more aggressively enforcing the terms of OSS licenses against alleged infringers, claiming that violations of an OSS license create liability for copyright infringement.

1. Jacobsen v. Katzer&Kamind Associates, Inc[7]**.-** In an opinion viewed as a major development in open source law, the US Court of Appeals for the Federal Circuit ruled that failure to comply with the conditions of an OSS license may constitute copyright infringement. In Jacobsen v. Katzer&Kamind Associates, Inc., the Federal Circuit held that the terms of an OSS license governing users' modification and distribution rights were limits to the scope of the license, and a failure to comply with those terms could form a viable copyright infringement claim. The court stated that compliance with open source requirements, while different than traditional licensing fees in the commercial setting, were entitled to no less legal recognition.

2. Software Freedom Conservancy Inc. v. Best Buy Co., Inc.-Another copyright infringement case that is considered significant for OSS licensors and the OSS community as a whole is the ongoing matter of Software Freedom Conservancy Inc. v. Best Buy Co., Inc. et al. Software Freedom Conservancy (SFC) is alleging that various electronics retailers and manufacturers sold and distributed electronic products, such as high-definition televisions, digital video recorders, DVD players, video cameras and wireless routers, embedded with firmware that contained a

[7]535 F.3d 1373 (Fed. Cir. 2008)

copy or a derivative work of OSS known as BusyBox without complying with the terms of the GNU General Public License, version 2 (GPLv2).

***3. Free Software Foundation, Inc. v. Cisco Systems, Inc*[8].-** OSS licensors have also recently taken action to compel companies that use OSS to comply with the obligations set out in the applicable OSS license. In a case involving the Free Software Foundation, Inc. (FSF) and Cisco Systems, Inc., FSF brought an action against Cisco to force it to publish source code that Cisco acquired with its acquisition of The Linksys Group Inc. Linksys had incorporated another company's software containing OSS into its own proprietary software, and the license to which the OSS was subject required OSS users to provide public access to the complete and corresponding source code of its underlying software.

Responsible Use of OSS

The relevant personnel responsible for managing OSS use within the company must be identified by an OSS policy. It should also specify what employees are covered by the policy. This section usually deals with:

Roles and responsibilities. It identifies the persons eligible to receive OSS-related questions and information requests. Furthermore, departments and personnel responsible for action items under the policy are also listed by it. For example, the point of contact for administering OSS source code disclosure requests.

Employee access. As applicable, it asks for the distribution of the policy to key employees and their training on the systems and processes necessary for using OSS. A receipt of training acknowledgment is required by some companies from employees to deliver to any outside auditors who can request verification.

Contract language.

It sets out the appropriate legal language to be inserted in applicable customer contracts for the sale of products or services that use OSS. Ordinarily it signifies the procedure for requesting the

[8]0810764 (S.D.N.Y. filed Dec. 11, 2008

legal language. If the form OSS-ready contracts are maintained by the company, the policy should also state how the appropriate business parties can access them.

Third-party compliance.

It lists steps that the relevant employees should take to ensure that all third-party contractors understand their responsibilities under them and are aware of the guidelines for OSS use.The company can take advantage of benefits of OSS in a rational and efficient manner if the procedures and guidelines for implementing the policy reflect the company's business model and tolerance for risk. However, creating and implementing such a policy is no small task. The value addressing the risks and liabilities necessitated with the use of OSS in advance of any problems is completely worth the effort. Thus, having a comprehensive OSS usage policy is the key to successfully working with OSS.[9]

Conclusion

We feel that open source software has already started to modify the rules in the information technology industry, which will produce enormous changes in the future.Open source software (OSS) has become an integral part of the global economy. The efficiency and cost savings of building upon a developed body of source code which can be used by engineers and business leaders is well appreciated by them.They can use it, modify and even distribute it on a royalty free basis. It is important to understand the legal issues associated with using and developing OSS for any company that depends upon software for its business. Thus, despite the perceived advantages, using open source software is not without risk.

Given these facts, it is clear to us that those countries and companies which adopt open source technologies in the short term will have a huge competitive advantage, and that society in general can benefit a lot from this early adoption. This collaboration would be beneficial for both parties. Taking this into consideration, economic and legal aspects concerning Open Source Software will be of much importance. That has been the area of study of our paper and we have tried to

[9]David McGowan, Legal Implications of Open-Source Software , 2005

provide to the reader a relatively detailed and as complete as possible introduction to the open source software landscape.

Having a comprehensive OSS usage policy is the key to successfully working with OSS. If the procedures and guidelines for implementing the policy reflect the company's business model and tolerance for risk, the company should be able to take advantage of the benefits of OSS in a rational, efficient manner. Creating and implementing such a policy is no small task; however, the value addressing the risks and liabilities attendant with the use of OSS in advance of any problems is worth the effort.

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