

Open Source Software: Coming to a Client Near You?

By P. Haans Mulder

Introduction

Market share in the software industry has and continues to be dominated by proprietary ownership.¹ Microsoft Windows, Mac OS X, iTunes, Adobe Photoshop, and RealPlayer are proprietary applications and household names. However, other forms of ownership have emerged, most notably open source. During these difficult economic times, businesses appear to be adopting open source software (“OSS”) at a faster rate for their technology needs.² As a business lawyer, it is important to be familiar with these emerging trends.³

What is OSS?

Despite OSS being formally recognized only since 1998, its foundations date back to the late 1960s.⁴ In general, OSS is the volunteer development of software that can be used and redistributed without restrictions, and the source code⁵ is freely available.⁶ There is debate among open source communities as to what criteria makes an application OSS.⁷ The most widely accepted guidelines are from the Open Source Initiative, which has developed ten criteria to determine whether an application constitutes OSS.⁸

Why is OSS Important?

Despite the historical dominance of proprietary software, OSS has grown in adoption. Forrester recently reported that more than 50 percent of businesses surveyed have already adopted or plan to adopt within the next twelve months open source content management, CRM, ERP, and business intelligence solutions.⁹ According to Gartner, Inc., 85 percent of companies surveyed are currently using OSS in their enterprises, and the remaining 15 percent anticipate using it the next twelve months.¹⁰

As far as particular applications, Apache is an open source application and has been the most popular HTTP server on the World Wide Web since April 1996. As of March 2009, it served over 46 percent of all Web sites and over 66 percent of the million businesses.¹¹ In addition, Linux is one of the fastest

growing operating systems and is used in a number of consumer electronics and medical equipment, as well as communication routers.¹² The use of Linux as a percentage of market increased from .05 percent in 1995 to 29.6 percent in 2001.¹³ In a recent study, 66 percent said they are evaluating or have already decided to increase adoption of Linux on the desktop, and 67 percent said they are evaluating or have already decided to increase adoption of Linux on servers.¹⁴

Technical Primer on Software

Having a basic understanding of software development is critical to being able to advise clients on licensing and other legal issues with OSS.¹⁵ In general, developing software entails programmers writing human readable instructions that are translated into machine readable instructions. These human readable instructions are referred to as “source code.” Source code is a critical concept for software (in particular for OSS) because virtually all OSS licenses require that it be made available to a licensee. In contrast, most proprietary (or closed source) licenses do not entitle licensees to receive the source code (which prevents others from using their code and distributing it under a competing application).

Once source code is developed, it is then converted into numbers (machine readable instructions). There is an application in many cases called a compiler that transforms the source code into what is referred to as object code.¹⁶ This is readable by a computer (as series of ones and zeros). It is important to note that object code cannot be easily converted back to source code. Finally, a linker program combines the object code into a file that in turn can be loaded, parsed, and managed by a computer.

OSS Licensing Issues

In General

There are hundreds of different license agreements relating to OSS.¹⁷ Despite the number of different licenses, there are some similarities. In general, OSS licenses freely provide source code.¹⁸ In addition, almost

all OSS licenses provide the licensee with no indemnification right or warranties.¹⁹ Aside from these similarities, OSS licenses differ as to whether the source code for modifications to the underlying application must be released and whether other programs used in connection with the software are subject to the same requirements.²⁰ In particular, some of these licenses allow modifications of code to be proprietary (i.e. not released to a user or licensee) if the OSS is only used within an organization.²¹

The three most common OSS licensing models are: the GNU General Public License (the “GPL”), the BSD license, and the Open Source Institute.²² Of these three, the GPL is the most common, with approximately 60 to 70 percent of OSS using it.²³ For this reason, it will be focused on in this article.

Key Terms of the GPL

There are a number of key license terms in the GPL.²⁴ The first is what is known as a “copyleft” orientation. This is provided for in the preamble (as well as parts of Sections 3 and 6 of the GPL) and prohibits licensees from placing restrictions on others’ use and distribution of the underlying software.

Another key issue under the GPL is charging a fee. The preamble clearly provides that charging a fee is allowed.²⁵ As mentioned previously, the notion of OSS being “free” does not mean a fee cannot be charged for the physical transfer of the application or some form of warranty.²⁶

A third key term under the GPL relates to the use of source code. Taking “copyleft” one step further, the GPL provides that licensees must receive or have access to the source code. The license also emphasizes the importance of informing licensees of their rights and keeping intact notices that refer to the license and providing a copy of the license.²⁷

Further, the GPL uses a very expansive definition of a derivative work. This will be discussed in more depth later in this article, but, briefly stated, this relates to restrictions that are placed on a licensee that modifies OSS source code and in turn develops another program. If the modifications constitute a “derivative work,” the licensee is required to include a number of GPL “rights” downstream in distributing the program so that equivalent rights are retained each time the software is transferred.

As with many other OSS licenses, the GPL disclaims warranties, including merchant-

ability and fitness for a particular purpose. However, the GPL does not specifically disclaim the warranty of title or non-infringement.

Finally, the GPL has very draconian consequences for a violation. Under Section 4, any attempt to “copy, modify, sublicense, or distribute” the application in violation of the GPL will constitute a termination of the license. There are no provisions for notice or an opportunity to cure.

OSS Issues for Software Developers

From a software developer’s perspective, the most problematic issue under the GPL relates to derivative works.²⁸ In general, a derivative work is a doctrine under the U.S. Copyright Act that prohibits someone from substantially copying another work and then using it in a way that infringes on the owner’s copyright.²⁹ Although this area is well settled for many different types of works, it has proved difficult to apply to software copyrights.³⁰ The uncertainty of what constitutes a derivative work makes it very difficult for software developers to determine whether they have to comply with the provisions of GPL.³¹

In addition, the GPL is inconsistent with judicial interpretation of a derivative work under copyright law.³² Even more problematic is that there has been no caselaw in the U.S. or otherwise that tests this definition of derivative work under the GPL. This creates considerable uncertainty over what is considered a derivative work.

In defining what constitutes a derivative work, the GPL creates a safe harbor. It provides that the “mere aggregation” on a storage device of an application with one that is licensed under the GPL (i.e. two applications are packaged together on the same storage medium) will not convert it to a derivative work. The GPL also describes that an identifiable section of a work that is a “reasonably considered independent and separate work” would not be a derivative work. However, an “independent and separate work” will still be a derivative work if it is distributed with portions of a work that is based on the GPL-licensed application. Until the courts interpret this language in the GPL, software developers will be uncertain as to whether an application (that uses source code from an application licensed under the GPL) must comply with all of the provisions of the GPL.

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OSS Issues for Business Licensees

Moving beyond a discussion strictly of the GPL, business licensees view a number of advantages to OSS.³³ The first is that many applications are free of user fees.³⁴ That has resulted in a considerable amount of savings to businesses.³⁵ In addition, OSS helps a licensee avoid what is referred to as a “vendor lock in.” This occurs when a licensee’s business becomes very dependent on the software vendor. If the software no longer meets the customer’s needs or becomes overly expensive, that customer can be “locked in” due to the cost and difficulty of changing solutions. In contrast, OSS source code is open to all and this allows vendors to modify and service software that has a commercial value. Also, documentation for proprietary software is typically very minimal on detail and is often out of date. As a result and if it is even permitted, customization of proprietary software can be difficult.³⁶ Lastly, OSS has a world community that can identify and fix bugs.³⁷ In contrast, proprietary software only develops in quality and delivery depending on the motivation and the resources of the software developer.

Aside from these benefits, there are also risks to using OSS. It is worth mentioning that these legal issues are very important for businesses that derive a significant amount of income from OSS. The first risk is that the many OSS licenses do not include any warranties, whether for title or non-infringement.³⁸ Further, most licenses do not provide indemnification from intellectual property infringement or misappropriation.³⁹ Finally, these licenses in most cases provide a disclaimer of all damages. This is critical for OSS because it is often unclear who is the author of the underlying work.⁴⁰

Acknowledging these benefits and risks, businesses should follow an analytical framework in determining whether to use OSS.⁴¹ It is suggested that a business must first decide if the benefits of using OSS outweigh the costs. If they do, it must then decide what licenses are acceptable and unacceptable. In deciding these issues, it should focus on the anticipated use of the software.⁴² Anticipated uses can be broken down into either internal company use only or use/licensing by third parties.⁴³

OSS Caselaw

Despite the adoption of OSS, there have been very few cases that have interpreted the terms of these license agreements and their overall enforceability. One of the earliest cases was *Progress Software v MySQL AM*.⁴⁴ MySQL sought an injunction based on Progress Software and its subsidiary’s failure to release the source code under GPL-licensed software. The federal court in Massachusetts assumed that the GPL was enforceable. However, it denied the injunction request, holding that there was a factual question about whether the software at issue was a derivative work under the GPL. The parties subsequently settled before trial.

In *Computer Associates International v Quest Software*, Computer Associates requested an injunction to enjoin Quest’s use of Computer Associates’ source code in any existing or future products.⁴⁵ The federal court in the Northern District of Illinois analyzed the Bison license (which is similar to the GPL) and assumed that it was enforceable. It then reasoned that Computer Associates was only claiming a right to use an output file (that was created by modified source code) and that this was subject to a specific exemption under the license. As a result, Quest did not violate the license.

More recently, there appears to be a new assertiveness with the enforcement of OSS licenses.⁴⁶ This assertiveness has resulted in arguably the most important OSS decision. In *Jacobsen v Katzer*, Jacobsen sought an injunction to prevent use of source code under the artistic license.⁴⁷ In response to a motion for preliminary injunction, the federal court in the Northern District of California denied the request, holding that while there may have been a breach of the license, it did not exceed its fundamental scope. The court determined that Jacobsen was not entitled to a presumption of irreparable harm (which would have otherwise attached to copyright infringement). Instead, the court held that this was breach of contract and Jacobsen could assert monetary damages.

The case was appealed to the court of appeals for the federal circuit, which reversed the lower court’s decision.⁴⁸ The court held that Jacobsen established a prima facie case of copyright infringement. This was based on parties not disputing the ownership of the copyright and that Katzer had copied, modified, and distributed part of the software. The court then proceeded to address the issue of

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whether the terms of the license were covenants or conditions. If there were covenants, the agreement was governed by contract law (and breach of contract was the remedy). If the agreement provided for both conditions and covenants, it was governed by copyright law (and an injunction may be issued). The court held that the license agreement included conditions and, as a result, sounded in copyright. It also held that Katzer violated the terms of the conditions and remanded the case to determine if Jacobsen would likely succeed on the merits.

In an opinion issued on January 5, 2009, the district court of the Northern District of California dismissed Jacobsen's breach of contract claim and denied (a second time) a motion for preliminary injunction.⁴⁹ As to the breach of contract claim, the court found that Jacobsen failed to allege a specific harm that was caused by the alleged breach of the artistic license. The federal circuit had acknowledged that damage to the "creation and distribution of copyrighted worked under public licenses" could include damage to the programmer's professional reputation.⁵⁰ However, the district court held that the complaint (as it was drafted) did not claim any damages that were proximately caused by the breach of the license. More importantly, the court held that the breach of contract claim was preempted by the Copyright Act. Finally, in denying the motion for preliminary injunction, the court reasoned that Jacobsen had failed to show that any harm was "real, imminent, and significant."⁵¹ The court specifically rejected Jacobsen's claim that harm resulted from delays in development and time lost in the open source development cycle.

While it does not directly impact U.S. law, it is worth noting that a German court issued an important decision regarding OSS. In *Welte v Sitecom Deutschland GmbH*, a group that authored an OSS application filed suit when a company providing a wireless router on software covered by the GPL did not release the source code or a copy of the license.⁵² The German court held that the GPL was enforceable and issued an injunction. In doing so, it upheld Sections 2 and 3 of the GPL, which forms the basis for the "copyleft" orientation and requires the distribution of source code. That being said, the court questioned the enforceability of certain GPL restrictions.

Other than the *Jacobsen* case, few courts have addressed interpretation issues and also

the enforceability of OSS licenses. That leaves a number of issues unresolved, in particular the overall enforceability of these licenses (and particularly the GPL).⁵³ As illustrated by the *Jacobsen* case, the potential defenses are summarized as follows:

1. Because the GPL does not require a formal assent (to explicitly agree to it), there is no meeting of the minds;
2. The GPL violates the Copyright Act;
3. The GPL is a contract that state courts may only have the authority to award money damages (and not enter an injunction to release the source code);
4. The GPL violates the U.S. Constitution;
5. The GPL is preempted by federal copyright laws;
6. The GPL violates export control laws;
7. The copyright owners under the GPL are estopped because they have only selectively sought to enforce it; and
8. Certain contract terms (such as derivative works) are too vague to be enforceable.

Conclusion

Based on industry trends and difficulties in the economy, there appears to be a resurgence of OSS adoption and business lawyers need to be aware of OSS licensing issues. Caselaw is not well developed in this area and there is still ongoing uncertainty regarding a number of OSS licensing issues. Thus, practitioners must stay current with the law in this area to competently advise software developers or business licensee clients.

NOTES

1. "Proprietary" is typically referred to as "owned" whereas "non-proprietary" is generally referred to as "not owned." Robert W. Gomulkiewicz, *General Public License 3.0: Hacking the Free Software Movements Constitution*, 42 *Hous L Rev* 1015, 1020 (2005). However, "proprietary" is best understood in the context of this article as controlled or uncontrolled. See *Id.*; Brad M. Kuhn & Richard M. Stallman, *Freedom or Power*, <http://www.gnu.org/philosophy/freedom-or-power.html>.

2. The Guardian, *Open source apps are no small free beer*, <http://www.guardian.co.uk/technology/2009/mar/12/open-source-apps> (March 12, 2009); Optaro, *Open Source Year 2008 in Review: More Adoption, Success, Innovation, and Alternatives*, <http://www.optaros.com>.

com/blogs/open-source-year-2008-review-more-adoption-success-innovation-and-alternatives (December 21, 2008); InfoWorld, *Open source application adoption*, <http://www.infoworld.com/d/open-source/open-source-application-adoption-235> (April 3, 2009).

3. As Michigan's economy continues to struggle, there is an effort to diversify the state's economy. It is not clear what industries will emerge to replace the lost manufacturing jobs. There is a hope that technology jobs in general and potentially software will be one of those growth areas. Organizations and initiatives in West Michigan like Momentum (<http://www.momentum-mi.com>) and aimWest (<http://www.aimwest.org>) are creating networks of technology professionals and assisting technology startups to grow this industry. According to manta.com, 1,840 computer software companies have a presence in Michigan. http://manta.com/mb_43_6g2_23/computer_software/Michigan.

4. Around 1969, computer scientists were sharing code and developing UNICS, the operating system that was a predecessor to UNIX, which was later licensed as the Berkeley Software Distribution (that has become the current "BSD license"). Bennett M. Sigmond, *Free-Open Source Software Licensing-Too Big To Ignore*, 34-DEC Colo Law 89, 90 (December 2005). In the 1970's and early 1980's Richard Stallman of MIT's Artificial Intelligence lab worked to develop a different paradigm than the traditional "proprietary" one. In 1983, he founded the Free Software Foundation ("FSF"). The "free" notion referred to the ease of transferability. However, it also inevitably suggested it was without cost. The group that developed the OSS name and developed criteria for how to define it took a more commercial (but still collaborative) approach. See *Id.* Brian W. Carver, *Share and Share Alike: Understanding and Enforcing Open Source and Free Software Licenses*, Berkley 20 Berkley Tech LJ 443, 449 (2005); See also ABA Section of Intellectual Property Law, *An overview of "Open Source: Software License"*, <http://www.abanet.org/intelprop/opensource.html>.

5. Source code is a very important concept and will be explained in the section entitled "Technical Primer on Software."

6. Ron Phillips, *Deadly Combinations: A Framework for Analyzing the GPL's Viral Effect*, 25 J Marshall J Computer & Info L 487 (Summer 2008). The Open Source Definition for open-source software is based on the Debian Free Software Guidelines, which in turn were based on the Free Software Definition. http://en.wikipedia.org/wiki/Open_Source_Definition. As mentioned previously, Richard Stallman is the founder of the Free Software Definition (published by the FSF). Despite OSS having its foundations in the "free" software movement, there are fundamental differences in their philosophies. http://en.wikipedia.org/wiki/Free_software_movement.

7. Sapna Kumar, *Enforcing the GNU GPL*, 2006 U Ill JL Tech & Pol'y 1, 8 (Spring 2006).

8. See *Id.*; http://en.wikipedia.org/wiki/Open_Source_Definition.

9. Commissioned Study Shows Open Source Paves The Way For The Next Generation Of Enterprise IT, *Bull*, <http://www.wcm.bull.com/internet/pr/trend.jsp?doId=412289&lang=en>.

10. Gartner Says as Number of Business Processes Using Open-Source Software Increases, Companies Must Adopt and Enforce an OSS Policy, <http://www.gartner.com/it/page.jsp?id=801412> (November 17, 2008).

11. March 2009 Web Server Survey, *Netcraft*, http://news.netcraft.com/archives/2009/03/15/march_2009_web_server_survey.html

12. Jason B. Wacha, *Taking the Case: Is the GPL Enforceable?*, 21 Santa Clara Computer & High Tech L.J. 451, 452 (January 2005).

13. See *Id.* at footnote 4, Sigmond, 34-DEC Colo Law 89 (December 2005).

14. Al Gillen and Brett Waldman, *Linux Adoption in Global Recession*, http://www.novell.com/linux/pdf/IDC_white_paper_Linux_Adoption_in_a_Global_Recession.pdf (March 2009).

15. The author credits the willingness of Jared Henderson of NetRivet (<http://www.netrivet.com/>), Aaron Schaap and Zach Moazeni of ElevatorUp (<http://elevatorup.com/>), Daniel Morrison of Collective Idea (<http://collectiveidea.com/>), and finally the Geeks Group (<http://geeks.elevatorup.com>) for discussing the technical side of software development.

16. To be complete, it is important to mention that certain programming languages (specifically interpretative languages) are not compiled and do not require a linker. Instead, they run with an interpreter.

17. Daniel L. Schwartz, *Open Source Software: What Should You Know About It and the Risks It Presents*, 18 No 5, Software L. Bull 11 (March 3, 2005). The reader should be aware that software patents are an important issue for OSS and software licensing in general. This article does not address this issue.

18. See *Id.*

19. See *Id.*

20. See *Id.*

21. See *Id.*

22. Ron Phillips, 25 J Marshall J Computer & Info L 487, 490 (Summer 2008).

23. See *Id.*

24. There are actually three versions of the GPL. The one that is most used and will be summarized in some detail in this article is Version 2. <http://www.informationweek.com/news/software/linux/showArticle.jhtml?articleID=198001444&pgno=2&queryText=&isPrev>. A copy of Version 2 of the GPL can be found at <http://www.gnu.org/licenses/gpl-2.0.html>.

25. See *Id.*

26. See *Id.* at Section 1.

27. See *Id.*

28. Ron Phillips, 25 J Marshall J Computer & Info L 487 (Summer 2008). This article provides a very detailed analysis of the complexity of derivative works and how they are construed under the GPL.

29. 17 USC 106.

30. Bennett M. Sigmond, 34-DEC Colo Law 89, 92 (December 2005). In fact, the authors of *Nimmer on Copyright* commented that assessments of whether software is a derivative work "are one of the most difficult questions of copyright law." See *Id.*

31. This is particularly problematic because a growing number of software companies are using OSS to develop proprietary (or closed source) software. Con Zymaris, *How to make money from Open source*, <http://www.builder.au.com.au/strategy/businessmanagement/soa/How-to-make-money-from-Open-source/0,339028271,339191343,00.htm>. If an application constitutes a derivative work, the source code (for almost all OSS licenses) must be provided to the licensee. However, as this article describes, in limited cases (like the BSD license), licenses only requires attribution and not providing source code.

32. Ron Phillips, 25 J Marshall J Computer & Info L 487 (Summer 2008); Bennett M. Sigmond, 34-DEC Colo Law 89, 93 (December 2005).

33. ABA Section of Intellectual Property Law, <http://www.abanet.org/intelprop/opensource.html>.

34. A recent study estimates that the total cost of OSS development is \$387 billion. <http://www.blackducksoftware.com/news/releases/2009-04-14>. This means that licenses of OSS have saved \$387 million in licensing and other fees.

35. Bennett M. Sigmond, 34-DEC Colo Law 89 (December 2005).
36. ABA Section of Intellectual Property Law, <http://www.abanet.org/intelprop/opensource.html>.
37. See Id.
38. Daniel L. Schwartz, 18 No. 5 Software L. Bull 11 (March 3, 2005).
39. See Id.
40. See Id.
41. Daniel L. Schwartz, 18 No. 5 Software L Bull 11 (March 3, 2005).
42. See Id.
43. See Id.
44. *Progress Software Corp v MySQL AB*, 195 F Supp2d 328 (D Mass 2002).
45. *Computer Assocs Int'l v Quest Software*, 333 F Supp2d 688 (ND Ill 2004).
46. Michael Bennett, *New Assertiveness and Open-Source Licensing: GPL Still Not Tested in U.S. Court*, 21 No 4 Software L Bull 13 (February 7, 2008). The Software Freedom Law Center is an organization that was founded in 2005 to provide pro bono representation to developers for free software and OSS. It has filed most of the recent litigation. http://en.wikipedia.org/wiki/Software_Freedom_Law_Center. To illustrate its approach, in *Anderson v Monsoon Multimedia*, the Software Freedom Law Center filed for a developer to establish that injunctive relief and other copyrighted infringement remedies were available. 2007 WL 2777698 (SDNY September 19, 2007). That case was based on the claim that the defendant did not make the source code available as required by the GPL. There was a settlement for an undisclosed amount and therefore, this issue was not determined.
47. *Jacobsen v Katzer*, 2007 WL 2358628 (ND Cal August 17, 2007).
48. *Jacobsen v Katzer*, 535 F3d 1373 (Fed Cir 2008).
49. *Jacobsen v Katzer*, 609 F Supp 2d 925 (ND Cal 2009).
50. *Id.* at p. 4.
51. *Id.* at p. 9.
52. A summary translation of the case can be found at http://www.oii.ox.ac.uk/resources/feedback/OIIFB_GPL2_20040903.pdf.
53. There are a number of articles which provide very detailed and analytical descriptions of the enforceability of the GPL. Jason B. Wacha, 21 Santa Clara Computer & High Tech LJ 451 (January 2005); Sapna Kumar, 2006 U Ill JT Tech & Pol's 1 (Spring 2006); Tennille M. Christiansen, *The GNU General Public License: Constitutional Subversion?* 33 Hastings Const LQ 397 (Summer 2006).



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