Policy statement

Open Source Software

Prepared by the Commission on E-Business, IT and Telecoms

Introduction

ICC recognizes that "open source" software has become a topic of great interest in the press and among policymakers. Open source software –as a software development and licensing model – is an emerging business reality that deserves thoughtful consideration. It is appropriate to address this subject in a balanced way and to look at the practical, pragmatic issues surrounding the emergence of this software development model in the marketplace, and the public policy implications.

"Open Source" Software

Generally speaking, open source software (OSS) refers to software for which the underlying "source" code (the programme text written in a programmeming language, such as C and C++, that is understandable to humans) is available for inspection and modification by anyone interested in doing so. This contrasts with proprietary software, the source code for which is often not made available to third parties. The term "open source," coined in the late 1990s, is often applied in two distinct ways: (1) to a software programme licensed under particular terms and (2) to a software development model.

Licensing considerations:

Open source software may be distributed under a number of different software-licenses.[1] For example, open source software may be licensed under permissive terms that allow-third parties to modify or incorporate the software into a new programme without requiring that the new or modified programme be licensed under the same terms. An example is software subject to the BSD license.[2] On the other hand, open source may also be licensed under terms that set forth specific rules for its distribution, reuse, or modification. A common example is the GNU General Public License ("GPL"). The GPL requires licensees of a GPL-covered work who distribute the object code version of the work to also make the source code version of the work available to anyone who receives the object code version that they distribute. This requirement that source

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[1] A useful table outlining the terms and features of ten different "popular or significant" open source licenses may be found at M. Fink, *The Business and Economics of Linux and Open Source* 42-25 (Prentice Hall PTR 2003)

[2] The BSD or Berkeley Software Distribution license only requires that re-distributions of code covered under it identify the original copyright holder(s) and pass through a disclaimer in the form of an "as is" warranty. See BSD license, http://www.opensource.org/licenses/bsd-license.php (last visited August 13, 2004)

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code be made available also applies to the source code for works that a licensee derives from a GPL-covered work. All GPL-covered works, including their derivatives, may only be distributed under the GPL. The GPL does not require that source code be made available if there is no distribution to a third party. However, not all open source software is covered by the GPL and there are in fact several open source licenses with less restrictive terms than the GPL. The Open Source Initiative is the organization that determines whether or not a given license meets the requirements to be deemed an "open source license." There are presently over 50 such licenses listed on the OSI web site.[3]

The term "open source" should not be confused with the term "public domain." Authors of software that is in the public domain have no right under copyright law to impose restrictions on the copying, distribution, modification, or other use of the software. Authors of open source software, by contrast, do exert copyright control over their software and may be very specific in their licensing requirements for the distribution, reuse or modification of their open source code. They do not simply make the code available to the public without restriction, as would be the case if the code were in the public domain. These licenses are quite different from works said to be in the "public domain" or commonly referred to as "freeware" or "shareware." The term "open source" also does not equate with "free" in the sense of price or cost of ownership.

Characteristics of the development model:
Open source development projects are typically made up of a diverse group, ranging from employees of an enterprise whose job it is to participate in a particular open source development project to others, often in the education and research communities, who are interested in the development of the code for a variety of reasons. Often the project leader adopts a role of finalizing the programme version and accepting modifications into a future version of the programme, so not all changes are automatically incorporated; they are simply made available for review by the project members and other participating in the open source community. Because the source code is viewable by all, the underlying technology can be used by developers outside the original community in other ways, thus offering flexibility for future software needs. More recently, the establishment of the Open Source Development Laboratory by a consortium of technology companies has brought commercial practices more often associated with proprietary software to some major open source development projects such as the Linux operating system. The Apache Software Foundation and the Eclipse Software Foundation are also good examples of more formal open source development models that receive support from a number of technology companies and employ rigorous development and review procedures.

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[3] See http://www.opensource.org/licenses/.

Open Source Software in the marketplace

The software marketplace is large and complex. According to IDC, the packaged software industry is a $190 billion industry that employs millions of people. This number does not include the vast value of software that is created within an organization for its internal use. Open source software is a significant and rapidly growing part of the software marketplace. Examples of Open source programmes include the operating system Linux, the Web server Apache, development tools like Eclipse, Perl and PHP, MySQL, a relational database system and the jBoss application server. Today there are an estimated 2.6 million Web and file servers running GNU/Linux. The Apache HTTP Server Project, an effort to develop and maintain an open-source HTTP server software product that can run on various operating systems, holds a leading share of the market[4]. Users include some of the largest and most prominent companies in the world.

Questions to consider when procuring software

Procurement leaders in government and industry should consider many factors when acquiring software that apply regardless of the licensing model. In evaluating or choosing a software model, many questions may be addressed, including:

a)   How does the functionality of any particular software address the relevant business needs?

b)   What is the total cost of customizing, implementing, managing, improving and maintaining the software over its useful life?

c)   What kind of services are provided, or what local services are available to maintain, modify or customize programme source code?

d)   How interoperable is the software with other programmes?

e)   How secure is the software and what resources (vendor or otherwise) are available to respond to attacks?

f)   Has the software completed direct or third party security evaluations of the product and the development process?

g)   What is the stability, utility and assurance related to the rights transferred in the software?

Each software license has distinct elements; there can be advantages and disadvantages to both open source and proprietary software, depending on the individual customer environment in which the software is to be deployed. Neither model possesses exclusive benefits. Rather, they reflect the rich diversity that exists in the software marketplace and purchasers need to decide on a case-by-case basis which combination of factors and characteristics best suit their needs.

Companies can participate in the market with both models for different products at the same time, e.g., for different product lines. Customers, as well, can decide freely which software

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[4] Gartner Group prediction. Business Week, January 12, 2004. 4 In a July 2004 Netcraft survey incorporating roughly 57 million Web sites, Apache ranked as the market share leader, with 69.5% market share and 16,774,339 active servers. According to Netcraft, the number of sites deploying Apache has risen to about 35 million. It has held the market leader position for about 10 years. See http://news.netcraft.com/archives/2004/07/01/july_2004_web_server_survey.html (last visited August 13, 2004)

product they prefer. It is expected that in the future, players in the marketplace will act in both models and use each of the models as appropriate.

Moreover, as open source software becomes more commercial, and as commercial software becomes more open, the above factors become less distinct. Instead, procurement leaders should evaluate software on a product-by-product basis relative to these factors and policy leaders should support this evolution by not looking solely at the development and licensing models as they set software public policy.

Open standards and Open Source Software

"Open standards" are publicly available technical specifications. While there is no universally accepted definition of the term, open standards are regularly developed, maintained, approved, or ratified by consensus and published without restriction, in a market-driven standards-setting organization that is open to all interested and qualified participants. Standards can also develop by consensus in the marketplace.

Standards setting organizations (SSOs) independently create their rules for participation and use, which may include obligations for participants to commit to license essential patent claims in their contributions to the standard. If the standard includes technology covered by patent claims (incorporated with the permission of the rights holder), it may be licensed on fair, reasonable and non-discriminatory terms, with or without a royalty or fee, depending on the rules of the particular standardization body. On rare occasions, dissemination of the standard may also be accompanied by licensing terms that require the licensee to license any improvements it makes to the standard to other licensees, including the licensor, in order to maintain the specification's quality as a uniform "standard" available to all market participants. However, one of the pro-competitive aspects of standardization is the fact that entities can provide their own unique value by adding technology on top of the standard to differentiate their products and provide competitive value to their customers.

"Open standards" are not the same as "open source software. Whether a specific standard qualifies as "open" has nothing to do with the development model or licensing terms associated with software that implements the standard.[5] Open standards (technical specifications) may be implemented by all types of software. Open standards do not inherently favor one model of software development or licensing over another, but instead, as technical specifications, document requirements that must be met so that products that implement the standard can exchange and use information with other products that also implement the standard.[6] Thus

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[5] "Open source standards" do exist. For example, a group called the "Free Standards Group" (www.freestandards.org (last visited August 13, 2004)) is engaged in a number of standards projects, such as developing standards and test suites to allow/enhance portability of applications across Linux distributions and different numbered releases. Sometimes, however, it appears simply that the terms "open source software" and "open standards" are confused because both contain the word "open.

[6] An example may be helpful. HTML is an open standard. Mozilla, a product of Netscape, is an open source web browser software programme that complies with the HTML standard. Internet Explorer, a web browser supplied by Microsoft with proprietary code, also complies with HTML standards.

governmental support for open standards provides no justification for favoring one software developing or licensing model over others.

Governments can play an important role in advancing open standards. That said, governments should avoid policies that inadvertently discourage the development and adoption of broad-based open standards, either by mandating standards themselves (which can freeze innovation) or mandating those that have not achieved broad industry support, or by reducing the economic incentives to participate in standards-setting processes.

Public policy implications of Open Source Software

Procurement preferences

Since the late 1990s, some governments at the sub-national and national levels have considered changing their public sector procurement laws to give preference to open source software by either creating barriers to the acquisition of commercial software (or preferences for acquisition of open source software) or making the purchase of commercial software by government procurement authorities' outright illegal. ICC opposes government procurement preferences and mandates that favor one form of software development or licensing over others. Governments, like all potential and existing customers, should choose software on a technology-neutral and vendor-neutral basis, examining the merits of the technology based upon the performance factors stated above. As a general rule, governments should not discriminate against or ban the procurement of software based on its licensing or development model. Such preferential policies prevent public authorities from effectively weighing all relevant factors in their procurement decisions.

Funding for research

Publicly funded basic research in software is an important source of innovation in both commercial and open source communities. It enriches the commons of knowledge, helps train the next generation of technology leaders and provides raw material that can be further developed into commercial products.

Permissive open source licensing can facilitate uptake of publicly funded research by developers working in both communities under all licensing models. Governments should provide public funding for basic research in software where possible, and to maximize the return on public funding, apply permissive open source licensing to serve the dual purpose of expanding the commons while allowing ongoing development in both communities.

Intellectual property concerns

Regardless of development model, the software industry relies on intellectual property law. Effective government intellectual property frameworks are important to commercial and open source development models. Both models rely on intellectual property protection to safeguard software programmes and allow products to be used by the community or sold to customers. Intellectually property rights frameworks create an effective environment for open source and commercial software firms to invest resources into creating new products and technologies. All participants in the software industry are well served by government policies that create robust and transparent enforcement mechanisms of intellectual property rights for software.

Conclusion

The combination of open source and proprietary development and licensing models yields a dynamic and innovative software industry while providing users with many choices to meet their needs. No one licensing or development model is appropriate for all customers or users in all situations. ICC believes the best mechanisms for governments to support innovation and the software industry are policies where no blanket preferences are provided based solely on the licensing or development model and supports continued and enhanced funding for basic software research coupled with effective and transparent intellectual property protection.

About ICC

ICC is the world business organization, a representative body that speaks with authority on behalf of enterprises from all sectors in every part of the world. ICC promotes an open international trade and investment system and the market economy. Business leaders and experts drawn from the ICC membership establish the business stance on broad issues of trade and investment, e-business, IT and telecoms policy, as well as on vital technical and sectoral subjects. ICC was founded in 1919 and today it groups thousands of member companies and associations from over 130 countries.

Document N° 373/466
27 October 2005 AH/MvdL/dfc