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ABSTRACT

OPEN SOURCE SOFTWARE   May 2011

> *Open source software – software that can be used, copied, modified and redistributed by anyone – a major part of the world's IT infrastructure.*

> *Governments should choose software based on an analysis of short and long-term costs and benefits – not ideology. Access to source code and the ability to modify it are benefits.*

> *While copyright law supports the ability of open source developers to determine the form of licensing, patents are a high-overhead form of intellectual property that fit poorly with open source models of development and distribution.*

> *Procurement policies should not discriminate. Open source software should be adopted on the basis of real benefits and costs, including the terms of availability and use.*

> *Software standards should be available royalty-free so as not to discriminate against open source implementation – as well as to encourage broad and rapid implementation.*

> *Patents should meet very high thresholds of invention and tangibility – and be granted only as needed to encourage innovation, not as a tool to discourage market entry. Non-specific assertions of patents to generate fear, uncertainty, and doubt are inherently anti-competitive.*

Background: Businesses and government agencies rely on open source software for essential operations. Many companies have built business models around open source software or use it as part of a marketing strategy. Models are based on complements, such as hardware, support services, systems integration, or commercial versions ("dual licensing," possible only if the company holds copyright in the code).

There are many different open source licenses, but they generally break down in two categories. The "copyleft" model used in the General Public License (GPL) requires that any modifications be available to others under the same terms if the software is redistributed. The "permissive" model, associated with BSD Unix and Apache, allows for proprietary modification of redistributed code.

Copyright and Patent Issues

Copyright plays a positive, supportive role in open source since any copying can be conditioned on adherence to the terms of the license. This is critical for copyleft licenses, where distribution of code under the license has a "viral" effect on modifications, including code added from any source. As is true for proprietary software, open source software can be contaminated by the unauthorized insertion of proprietary code. This appears to be a rare occurrence, but the claim featured prominently in the SCO's ultimately unsuccessful litigation against IBM.

Whereas copyright law can help maintain the integrity of open source software and prevent proprietary, patents threaten open source because they are costly to navigate and can be used to block independent creation. (Copying is not an element of patent infringement, and a recent study showed that only 2.6% of complaints of software patent infringement alleged copying.) Proprietary software companies have used patents to threaten open source projects – or simply created fear, uncertainty, and doubt. The very high costs of the patent system are antithetical to the low-cost and collaborative development, distribution, and maintenance of open source software. While patents can also threaten proprietary software, the inner workings of proprietary software are not normally exposed to the world. The Supreme's Court long-awaited *Bilski* decision (July 2010) provided little guidance on the patentability. However, it held that the business method at issue was an unpatentable abstract idea and reaffirmed old decisions on the nonpatentability of algorithms.

Actual litigation against open source software had been rare, in part because attacks on open source may well elicit patent-defeating prior art from the large and knowledgeable open source community. However, in early 2009 Microsoft sued TomTom for infringement of patents related to the Linux operating system, although this high-profile matter settled quickly. In 2010, IBM accused TurboHercules (which offers an open source mainframe emulator) of infringing 173 patents, including two that IBM had promised not to assert against open source software. Within the past Oracle has sued Google over the implementation of Java Android. Apple has sues HTC for alleged patent infringement in Android, and Microsoft has sued Motorola and Barnes and Noble over their implementations of Android.

Procurement

In the wake of a district decision rejecting a Department of Interior sole source contract to Microsoft, the White House issued a memorandum that makes it clear that open source options should be duly evaluated in procurement:

> agencies should analyze alternatives that include proprietary, open source, and mixed source technologies. This allows the Government to pursue the best strategy to meet its particular needs… Accordingly, as program, IT, acquisition , and other officials work together to develop requirements and plan acquisitions, they should follow technology neutral principles and practices. This means selecting suitable IT on a case-by-case basis to meet the particular operational needs of the agency by considering factors such as performance, cost, security, interoperability, ability to share or re-use, and availability of quality support.

CCIA's Position: CCIA's support for open source software follows from our historical commitment to open standards and open competition. CCIA established the Open Source and Industry Alliance (OSAIA) in 2003 to provide focus and engagement for policies important to open source software.

Key Players and Politics: Open source software may threaten the traditional business models of some companies. However, most of the IT and services sector embraces open source software as an essential part of the IT ecosystem. For many sophisticated users, the ability to access and modify source code is a high priority or necessity.