

Managing risks associated with open source software

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Discussion

- What is Open Source?
- Benefits, risks & examples
- Using O/S in development projects
- O/S licenses
- O/S related litigation
- Practical tips to manage O/S related risks

What is Open Source software?

- Non-proprietary, publicly available and free software
- Protected by copyright law oriented toward users controlling rights received – not in public domain
- Released with source code
- Peer-based, collaborative development model
- Community of developers fix bugs, add functionality and make improvements regularly (e.g., sourceforge.com)
- Peer recognition / fame often bestowed upon O/S developers
- Tool for sharing -- consistent with academic mission

- Examples: Linux operating system, Sun's MySQL database system, PERL web scripting language, Apache web server, other?

Benefits of using O/S

- lower costs, often free
- reduces (or eliminates) development time
- increased flexibility and reliability
- freedom of use
- peer review and developer acclaim
- cleaner design and free bug fixes
- “global laboratory” for rapid innovation

Which benefits are most important and why?

Risks of using O/S

- Ambiguity re license requirements
- Security issues – are hackers able to learn about holes in O/S more easily?
- Inconsistent development documentation
- “as is” -- no warranties, no indemnification
- Threat of intellectual property infringement
 - MSFT claims Linux infringes its patents
 - developer may have used infringing code

Which risks are most concerning?

O/S use examples

- White House's www.recovery.gov uses Drupal
 - an open source content management platform offered for free and licensed under GPL.
- Wikimedia Foundation uses a MediaWiki
 - O/S collaborative editing software that runs Wikipedia, the free encyclopedia, and other projects. Licensed under GPL.
- Others?

Using O/S in projects

- Internal use (within Dartmouth)
 - Adhere to TTO and Dept policies, as applicable
 - Consider various factors (e.g., cost, security, reliability)
 - Understand and adhere to O/S license terms
 - Usually few restrictions; watch out for prohibition re placing on network
- Sponsored development projects
 - US Govt: no restrictions on O/S; negotiate use up front
 - 3rd party: negotiate O/S use into terms; inform sponsor of release requirements beforehand; consider developing without copyleft contributions (Palm example)

Examples of sponsored projects using O/S?

O/S license requirements

O/S licenses rely on copyright and contract law to ensure compliance with OSI-approved terms:

- Free redistribution
- Include source code
- Derived work
- Integrity of author's source code
- No discrimination against persons / groups
- No discrimination against fields of endeavor
- Distribution of license
- License must be product and technology neutral
- License must not restrict other software

“Copyleft” refers to license requirements that govern how modifications to original O/S must be treated when software is publicly distributed (i.e., distribute mods under same terms)

O/S License Assessment

- Consult with TTO early on
- Identify whether (i) using internally, (ii) contributing code and/or (iii) distributing modifications
 - adhere to respective O/S license terms
- Generally, internal use has few restrictions
 - Watch out for restrictions prohibiting placing on network
- Most O/S licenses require modifications to be distributed under same license terms

Discussion Question

I recently took some open source (GPL'd) code and modified it for a research project. I then submitted it to the project repository, but I wasn't sure what my obligations were with regards to the GPL'd code I had modified.

Did I need to push patches back to the original authors? Just make a note?

I would like to know more about requirements for consumers/modifiers of GPL'd code.

Overview of General Public License

GNU General Public License (GPL)

most popular O/S license; intended to “guarantee your freedom to share and change software and to ensure the software is free for all users”

key aspects if you modify GPL s/w and distribute it

- include notices stating the files you changed and dates
- license modifications at no charge and under same terms
- include copyright and no warranty notices
- include a copy of the source code (or offer its availability)

*See, Software Freedom Law Center’s Practical Guide to GPL Compliance
(26 Aug 2008)*

O/S related litigation

Jacobsen v. Katzer

Robert Jacobsen (CAL physics prof) sued alleging that Katzer's Kam Industry was distributing a commercial software program that (a) took code from the Java Model Railroad Interface project and (b) was redistributing it without license-required credits.

Ct of Appeals (Fed Cir) (Aug 13, 2008) found the limitations in the Artistic license were "conditions" on the scope of the license and Katzer exceeded the scope. Thus, Katzer was liable for copyright infringement.

Bottom line: This case established enforceability of O/S licenses under US Copyright Law

O/S related litigation

- MSFT v. TomTom: 25 Feb 2009 MSFT sued TomTom alleging TomTom's navigation devices violate 8 MSFT patents, including 3 re Linux kernel. TomTom counter-sued for IP infringement re MSFT map software.
- Case settled w/a x-licensing deal on Mon March 30, 2009.
- Bottom line: hugely contentious notion that Linux may infringe on MSFT patents remains unresolved.

- SCO cases: 2003 sued IBM for \$1B asserting IBM's Linux code unlawfully used SCO Unix code; SCO sued Novell too; IBM & Red Hat (Linux distributor) counter sued SCO.
- Ct ruled that Novell (not SCO) is rightful owner of Unix.
- SCO filed for bankruptcy in 2007. IBM case never reached court.

Tips for managing O/S risks

- Consult TTO to discuss using O/S in key projects
- Assess if the O/S software provides all functional elements that the project requires
- Assess developer credibility
- Identify if using, contributing or distributing and understand respective O/S license terms beforehand
- Comply with specific O/S license terms
- Establish a process to handle O/S related inquiries (e.g., GPL compliance queries)

Additional resources

- Free Software Foundation www.fsf.org
- Open Source Initiative www.opensource.org
- Software Freedom Law Center
 - www.softwarefreedom.org
- Finnish Centre for O/S Solutions
 - www.coss.fi
- Linux Foundation www.linuxfoundation.org
- SourceForge www.sourceforge.com