



EVERYTHING MATTERS

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## Patents in Open Source Software Licensing

- Gartner:
  - "the biggest disruptor the software industry [Gartner] has ever seen and [Gartner] postulated it will eventually result in cheaper software and new business models."
  - Open-source products in 2006: 13% of the \$92.7 billion software market
  - Open source products in 2011: 27 % of the \$169.2 billion software market
  - By 2012, 80 per cent of all commercial software will include elements of open-source technology
- IDC:
  - 2007 Industry Adoption of OSS
    - 35% to 60% of respondents have budget for OSS
    - More than 50% allocate more than 10% of budget to OSS
  - Linux ecosystem is \$40 Billion by 2010

# ADVANTAGES OF OPEN SOURCE FOR LICENSEES

- Time to market
  - Source code already exists
- Lower costs
  - Fixed
    - Little or no up-front development
  - Recurring
    - Typically road-ready
    - Potentially large usage base implies
      - Defects are found before you find them
      - Defects are already fixed when you find them

# ADVANTAGES OF OPEN SOURCE FOR LICENSORS

- Leverage “community” contributions
  - Red Hat estimates that it spends \$60M in R&D but gets the advantage of R&D in Linux worth \$1B
- Swifter sales cycle: try before you buy
- Reduced distribution cost by avoiding large sales force
- Assistance in tracking and resolving errors
  - “With enough eyeballs, all bugs are shallow”
- More immediate feedback on desired functions
- Branding advantage of being “open source”

- Free Software Foundation (FSF)
  - Developed General Public License (GPL)
  - Owns copyright to GNU project (includes key open source operating system components: gcc, glibc, binutils)
- Open Source Initiative (OSI)
  - ***Approves licenses as “open source” (i.e. used by some companies in defining scope of patent licenses for “open source”)***
- Linux Foundation (formerly Free Standards and OSDL)
  - Commercial open source trade association
- Apache Foundation
  - Key open source community – developed and run by the community
- Eclipse Foundation
  - Has become a standard IDE

- OSI lists 50 licenses which OSI has approved as being “Open Source”
- Three types:
  - Reciprocal Licenses: General Public License, Mozilla Public License, Common Public License
  - Notice: Apache License, BSD, MIT
  - Other: NASA Open Source
- OSI Classification:
  - Popular, widely used: 9
  - Special Purpose: 3
  - Redundant: 9
  - Non-reusable: 24
  - Miscellaneous: 5

- GPLv2 first published in 1991 (final version of GPLv3 published 6/29/2007)
- Key Terms of GPLv2
  - Right of customers to modify and distribute modification under GPL
  - Non-exclusive
  - Obligation to distribute (can charge, but not pass through this obligation)
  - Any “work based on the program” is subject to GPL
  - Must include source code
  - Automatic termination

- Contains political statements
- Scope of “based on” work
  - Derivative work analysis
  - Dynamic vs. static linking
  - Collective work
- Disclaimer of all warranties
- Disclaimer of liability
- ***Patent license: uncertain (FSF Position: “Implied License”)***

- Codify “FSF case law” on GPLv2 (e.g., system library exception, binary distribution methods, additional permissions/restrictions)
- Internationalization
  - Prevent anti-GPL judicial nationalism and country-specific FOSS licenses
  - Achieve greater uniformity across jurisdictions (country-neutral terminology)
- **Patents**
  - ***Desire for explicit patent license grant by GPL commons participants***
  - ***Greater policing of collusive patent licensing practices by distributors***
- DRM-related issues
  - Close GPLv2 loophole: technical restrictions on modification in situ (Tivo)
  - Protect developers from liability under anti-circumvention law (DMCA, EUCD)
- License compatibility
  - Rationalize existing practices (removable additional permissions, additional restrictions in permissive licenses)
  - Solve certain GPLv2 compatibility problems (Apache, Affero)

- Scope defined by “copyright law”, not US copyright law
  - Applies to any copyrightable works
  - Applies to hardware
- Does not apply to ASP services
- Convey vs. propagate
- **Patents**
  - ***Direct license for “contributors” (no license for simple distribution)***
  - ***“Knowing reliance” for upstream license***
    - ***Make source code available to everyone***
    - ***Deprive of benefit***
    - ***Extend license to all downstream users***
  - ***Prohibit Novell/Microsoft***
    - ***Microsoft Like Position = Patent license to all copies of work***
    - ***Novell Like Position = No licenses limiting exercise of rights under GPLv3***

- Modification to permit compatability with other license
  - Warranties
  - Trademark use/publicity
  - Reasonable attribution
  - Prohibition of trademark use
  - Requiring indemnification of licensors (Apache compatability)
- Termination
  - Automatic termination
  - Cure
    - Cease violation, but license can be permanently terminated if notice of termination within sixty (60) days

- Special Rules for Consumer Products (Anti-TiVo provision)
  - User Products
    - Consumer products – (TV, DVD, auto) or are designed or sold for incorporation into a dwelling
    - Conveyed for perpetuity/fixed term
  - Installation Information
    - Methods/procedures/authorization keys for installation/execute modified software
    - Exception: Neither vendor nor a third party may modify software
  - Vendor Rights
    - Terminate support service, warranty, updates
    - Deny access to network if modification materially and adversely affects operation of the network or violates communication rules

# Treatment of Patents in Other OSI-approved Open Source Licenses

- Common Public License Version 1.0
  - Definition of “Licensed Patents”: “patent claims licensable by a Contributor which are necessarily infringed by the use or sale of its Contribution alone or when combined with the Program”
  - License grant: each Contributor grants Recipient license to Contribution; extends to combination claims involving Original Program; does not extend to other combinations or hardware
  - Broad patent peace provision:
    - “if Recipient institutes patent litigation against a Contributor with respect to a patent applicable to software (including a cross-claim or counterclaim in a lawsuit), then any patent licenses granted by that Contributor to such Recipient under this Agreement shall terminate”
    - “if Recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Program itself (excluding combinations of the Program with other software or hardware) infringes such Recipient’s patents, then such Recipient’s rights granted under Section 2(b) shall terminate”
- Mozilla Public License
  - Definition of “Patent Claims: “any patent claim(s), now owned or hereafter acquired, including without limitation, method, process and apparatus claims, in any patent Licensable by grantor”
  - License grant:
    - By Initial Developer: Patent Claims for Original Code
    - By each Contributor: Patent Claims for Modifications by Contributor alone or in combination with Original Code
  - Treatment of patent peace different from CPL:
    - Claims alleging infringement by Contributor Version (original code + Contributor modifications) against initial developer or contributor terminate patent rights unless litigation withdrawn or reasonable royalty agreed upon to be paid for use of modifications to original code
    - Claims alleging infringement of *any* software, hardware or device other than Contributor Version terminate patent rights for original code and modifications

# Treatment of Patents in Other OSI-approved Open Source Licenses

- Community Development and Distribution License
  - Definition of “Patent Claims” same as MPL
  - License grant essentially same as MPL
  - Treatment of patent peace similar to MPL: if patent infringement claim asserted (excluding declaratory judgment actions) against Initial Developer or a Contributor alleging original code or contributor version directly or indirectly infringes any patent then all patent rights terminate unless claim withdrawn or written agreement entered into
- Apache
  - Version 2.0 released beginning 2004 to address patents (version 1.0 released in 2000 was silent)
  - Includes express patent license
    - Extends to patent claims licensable by Contributor that are necessarily infringed by Contributor’s contributions alone or in combination with original Work
  - Patent peace
    - Patent license terminates if recipient institutes patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging Work or Contribution constitutes direct or contributory patent infringement; terminates as of date litigation filed

# 2007: Open Source and Patents in the Courts

- ***First lawsuit by patent trolls against open source companies, Novell and Red Hat***
  - *IP Innovation LLC (and Technology Licensing Corporation)*
- ***First lawsuit by proprietary company against an open source company***
  - *NetApp sues Sun for patent infringement by the ZFS file system introduced by Sun*