Intellectual Property Rights and Open Source Software licenses

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Intellectual property rights (IPR)

- IPR's
  - Copyright (expression)
  - Patents (invention)
  - Trademarks
- IPR's are originally created to protect the rights of artists (music, literature etc.)
- In case of software a difference between expression and invention is often unclear

Copyrights

- Copyright protects the expression

- All software is automatically covered by copyright (as long as work is copyrightable)

    - for (int i = 0; i < FOO; i++)

        - Not copyrightable

    - perl -nle 'print for m/(\S+)\s+the\s+(\S+)/g' paragraphs

        - maybe copyrightable

    - main(v,c)char**c;{for(v[c++]="Hello, World!\n)";(!!c)[*c]&&(v--||--c&&execlp(*c,*c,c[!!c]+!!c,!c));**c=!c)write(!!*c,*c,!!**c);}

        - copyrightable

Copyrights cont.

- "As to copyright, a single sentence is generally accepted to be too short to qualify for copyright protection. Still, at the same time, a haiku is likely to be protected even though it's easy to write single sentences that are longer than haikus. "Arnoud Engelfriet, debian-legal@lists.debian.org, 7.10.2005

- In case of software one can' say the LOC that qualifies for copyright protection

Copyrights cont.

- Copyright holder has the following rights to his work (covered by the international copyright laws)
  - Exclusive right to make copies
  - Exclusive right to prepare derivative works
  - Exclusive right to distribute copies of the original or derivative works
- In case of literature, music, movies etc. you have an exclusive right to display the work publicly
- Others don't have these rights and they are not allowed to perform these actions without copyright holders permission
- There can be many copyright holders for a single work

Patents

- Patents protect the inventions

- Patents must be obtained separately
  - Long and costly process

- Patent holder rights
  - Right to exclude others from making products embodying your patented invention
  - Right to exclude others from using products embodying your patented invention
  - Right to exclude others from selling or offering for sale products embodying your patented invention
  - Right to exclude others from importing products embodying your patented invention

Trademarks

- Purpose is to differate from other products

- Can be owned, sold and licensed

- OS licenses <u>don't</u> license trademarks

- For example if you want to use Linux trademark in your product the license must be obtained from Linux Mark Institute

Software licenses

- License is simply a permit to do something that is not legal otherwise (Driving license / Software license)

- Software license describes copyright and patent holders promise to use their intellectual property

- Open Source Initiative approves OS licenses. Approved licenses can be found from:
  http://www.opensource.org/licenses/

Software licenses cont.

- Open Source licenses guarantee following rights to the user
  - Licensees are free to use Open Source software for any purpose whatsoever
  - Licensees are free to make copies of Open Source software and to distribute them without payment of royalties to a licensor
  - Licensees are free to create derivative works of Open Source software and to distribute them without payment of royalties to a licensor
  - Licensees are free to access and use the source code of Open Source software
  - Licensees are free to combine Open Source and other software

Software licenses cont.

- User rights can be expressed explicitly or implicitly in OS licenses

- By contrast commercial software licenses grant users a limited right to use the program

- Open Source license types
  - Academic licenses (for example BSD and MIT)
  - Reciprocal (for example LGPL and MPL) licenses
    - Extreme cases are viral licenses (for example GPL)
  - Content licenses (for example AFL, Creative Commons)

- More than 80 % of the OS software is licensed under GPL or LGPL

Open Source warranty

- ...doesn't exist :) (unless someone wants to give one)

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Academic licenses

- Origins of these licenses is at universities

- Most common academic licenses: BSD, MIT, Apache

- Idea is to give the software to the users and let them use it any way they want

- Permission to re-license the software.

- Derivative works can be closed source (commercial) software

MIT License

- MIT license http://www.opensource.org/licenses/mit-license.php permits the use of copyright holders intellectual property on two conditions:
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    - Copyright holder gives absolutely no warranty for the program
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BSD License

- BSD license http://www.opensource.org/licenses/bsd-license.php is very close to the MIT license

- Some additional restrictions

  – "Neither the name of the <ORGANIZATION> nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission."

  – Distribution in binary form must include copyright notice and the license itself

Reciprocal licenses

- Derivative works must be distributed under the same license as the original work

- In GNU world, a term Copyleft is often used: http://www.gnu.org/copyleft/copyleft.html

- Viral licenses require that all software that use the original work must be licensed under the same license

- LGPL and MPL are reciprocal but not viral licenses

- GPL is a viral license

GPL

- GPL is the most important OS license

- GPL v. 2 was very unclear in many ways
  - Lots of technical "babble" that was based on old software techniques
  - License was contradictory with itself

- GPL v. 3 was created to clarify and to enhance the old license
  - Better compatibility with other licenses
  - More difficult for engineers to understand but much better for lawyers

GPL

- Copyleft in GPL 3

- 5 c) "You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it."

GPL

- **All derivative works of GPL must be GPL (quote from GPL faq)**

  – What constitutes combining two parts into one program? This is a legal question, which ultimately judges will decide. We believe that a proper criterion depends both on the mechanism of communication (exec, pipes, rpc, function calls within a shared address space, etc.) and the semantics of the communication (what kinds of information are interchanged).

  – If the modules are included in the same executable file, they are definitely combined in one program. If modules are designed to run linked together in a shared address space, that almost surely means combining them into one program.

  – By contrast, pipes, sockets and command-line arguments are communication mechanisms normally used between two separate programs. So when they are used for communication, the modules normally are separate programs. But if the semantics of the communication are intimate enough, exchanging complex internal data structures, that too could be a basis to consider the two parts as combined into a larger program.

GPL 3 patent clause

- Whenever someone conveys software covered by GPLv3 that they've written or modified, they must provide every recipient with any patent licenses necessary to exercise the rights that the GPL gives them. In addition to that, if any licensee tries to use a patent suit to stop another user from exercising those rights, their license will be terminated.

- What this means for users and developers is that they'll be able to work with GPLv3-covered software without worrying that a desperate contributor will try to sue them for patent infringement later.
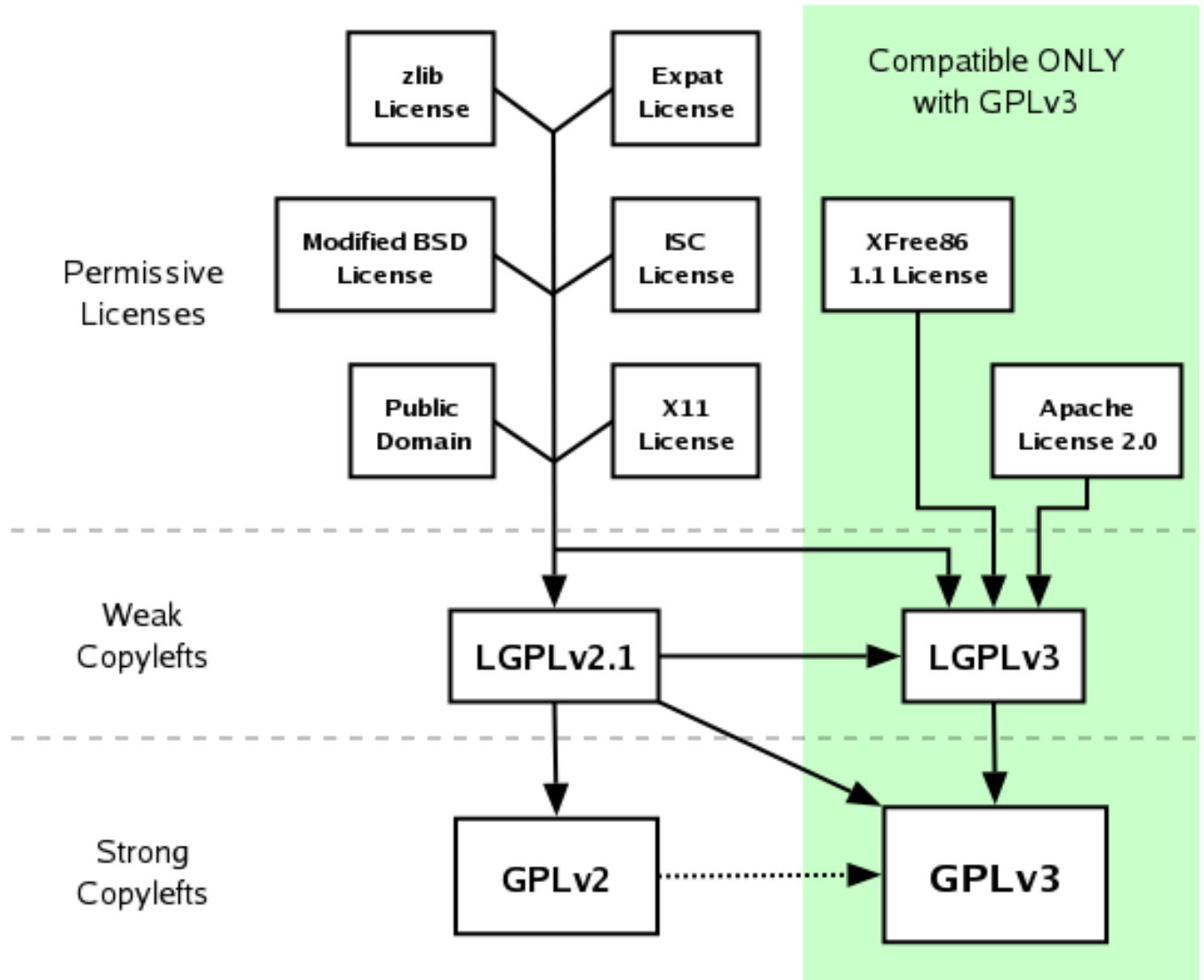
LGPL

- LGPL, Lesser General Public License (formerly Library General Public License) is mostly a copy from GPL

- Not a strong copyleft license, because it permits linking with non-free modules

- "You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications"

License compatibility

- Licenses must be compatible in order to create works that contain software that is licensed under different licenses

- List of GPL compatible and incompatible licenses can be found from FSF web pages:
  http://www.fsf.org/licensing/licenses/index_html#SoftwareLicenses

- Well known GPLv2 incompatible licenses
  - Mozilla Public License (MPL)
  - Xfree 86 1.1 -license
  - Original BSD license
  - Apache license

GPL3 license compatibility

References

- A Quick Guide to GPLv3:

  http://www.fsf.org/licensing/licenses/quick-guide-gplv3.html

- The Open Source Definition: http://www.opensource.org/docs/definition.php

- Free Software Definition: http://www.fsf.org/licensing/essays/free-sw.html

- Debian Free Software Guide: http://www.debian.org/social_contract#guidelines

- Categories of Free and Non-Free Software:

  http://www.fsf.org/licensing/essays/categories.html

- Open Source Licensing, Software Freedom and Intellectual Property Law, Lawrence Rosen, Prentice Hall, 2005

- Understanding Open Source & Free Software Licensing, Andrew M. St. Laurent, O'Reilly, 2004

- OSI approved OS licenses: www.opensource.org/licenses

- GPL FAQ: http://www.gnu.org/licenses/gpl-faq.html