GPLv3 in Practice

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Presenter Background

- Open Source Licensing and Patent Counsel at Red Hat (since February 2008)

- Previously Counsel, Software Freedom Law Center (joined 2005)

  - Represented various FOSS projects and organizations, principally the Free Software Foundation

  - Co-author of GPLv3, LGPLv3, Affero GPLv3 with Richard M. Stallman and Eben Moglen

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- Disclaimer: Views expressed in these slides are my own and are not necessarily those of my employer

Adoption: Unscientific impressions

- GPLv2 (especially "GPLv2 or later") shows no signs of being eclipsed in popularity by GPLv3; same for LGPLv2.x vs. LGPLv3

- GPLv3 is a popular license choice for: new FOSS projects with few (and probably younger) developers, often small utilities or scripting applications, often projects oriented towards Windows platforms

- Evidence that many adopting projects are attracted to perceived strong policy on software patents

- Relatively few prominent/longstanding GPLv2 projects have moved new releases explicitly to GPLv3

Adoption: Unscientific impressions

- Some surprising evidence (from Google Code) that Black Duck and Palamida may be substantially *undercounting* GPLv3 adoption

- Community Linux distribution projects: GPLv3 and LGPLv3 are already an established substantial minority of available packages in recent releases

- Affero GPLv3 has not seen wide adoption

Why v3 adoption hasn't been greater

- **FSF made little effort to evangelize projects not under its copyright control**

- **Established GPLv2 projects are happy with GPLv2; "GPLv2 or later" (most common form of v2 licensing) seen as best of both worlds**

- **Very difficult *culturally* for established projects with large numbers of contributors and no centralized contribution process to change licenses**

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Why v3 adoption hasn't been greater

- Non-GPL projects would never want to switch to a strong copyleft license

- Limited commercial flirtation with GPLv3-based business models

- FSF concerns about "Tivoization" not widely shared

Selected topics

- **License compatibility issues (broadly speaking)**

  - System library exception

  - GPLv2-only/GPLv3 incompatibility

  - LGPLv3/GPLv2-only incompatibility

  - GPLv3 and "badgeware" conditions

  - Removability of contradictory terms in GPL notices

- **Patent termination and "the Program"**

- **GPLv3 and avoiding GPLv2 noncompliance**

- **New paradigm in corresponding source definition**

System library exception

- **Historical background: GPLv2 has built-in exception to source code disclosure (and implicitly copyleft) requirement to clarify that you can build executables linking against proprietary operating system libraries:**

    - The source code distributed need not include anything that is normally distributed ... with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, **unless that component itself accompanies the executable**.

- **Meaning and purpose of last clause is not clear; strict reading has harsh results for all-FOSS distros**

System library exception

- **GPLv3 redrafting motivated by Debian concern over legality of Nexenta project (GPL'd applications linking against GPL-incompatible CDDL Sun libc), since Sun libc would accompany the GPL'd programs)**

- **Original goal: eliminate the "unless" exception-to-exception, but make sure resulting SLE isn't too broad**

- **GPLv3 version:**

  - The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the **normal form of packaging** a Major Component, but which is **not part of** that Major Component, and (b) serves **only** to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component" ... means a major essential component (kernel, window system, and so on) of the specific operating system ... on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

System library exception

- **OpenSSL problem**

    - OpenSSL implementation of cryptographic protocols is used by numerous GPL-licensed standard packages in Linux distros

    - OpenSSL license is considered GPL-incompatible by FSF (contains advertising clause) (FSF sponsors a competing project, GnuTLS)

    - FSF recommends that GPL project licensors issue explicit permissive exception allowing users to link with OpenSSL; few projects have done so (many cannot practically do so)

- **Debian unsuccessfully sought FSF opinion that OpenSSL was a GPLv3 "System Library"**

- **FSF made clear that SLE is to be construed narrowly**

    - In reality, GPL/OpenSSL linking is tolerated because few upstream GPL project developers care about the issue, and because the issue does not involve a non-FOSS, closed-source license incompatibility

GPLv2-GPLv3 incompatibility theory

- **GPLv2 copyleft clause:**

  - You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

- **GPLv3:**

  - "This License" refers to version 3 of the GNU General Public License.

  - To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy.

  - You must license the entire [modified] work, as a whole, under this License to anyone who comes into possession of a copy

- **"Mere aggregation" clauses in each license limit copyleft scope**

GPLv2-GPLv3 incompatibility theory

- **Nothing explicit in either license compels incompatibility conclusion**

  - "This License" not defined in GPLv2; section 9 speaks of "version number[s] of this License"

- **FSF view:**

  - "GPLv2 only" is incompatible with GPLv3

  - "GPLv2 or later" is compatible with GPLv3 (because combinations are regarded as being licensed under GPLv3)

  - FOSS developer world universally accepts FSF's interpretation on this

- **v2/v3 incompatibility:**

  - Irrelevant to "mere aggregates" (Linux distros ship independent v2-only packages and v3 packages together)

  - Has only caused a few problems (because there is little GPLv2-only code being combined with GPLv3 code in a copyleft-relevant sense)

Best-known case: KDE

- KDE components are a mix of GPLv2-only and GPLv3-compatible (GPLv2-or-later, LGPL)

- Most important KDE dependency is Qt, which was formerly GPLv2-only

- Oct. 2007: Samba announced that 3.2 release would be under GPLv3; certain KDE components depend on Samba libraries

- Jan. 2008: Trolltech announced that Qt 4.3.4 would be licensed explicitly under "GPLv2 or GPLv3"

- KDE (Linux kernel-style contribution policy) has undertaken an effort to get contributors of GPLv2-only code to relicense to GPLv2-or-GPLv3

- KDE competitor GNOME has avoided problems because components (except for Evolution) are GPLv2-or-later

LGPL/GPL compatibility theory

- **LGPLv2.1 explicitly authorizes relicensing under GPLv2 or later versions of the GPL:**

  - "You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.)"

  - Seen as formal basis for GPL-compatibility of LGPLv2.1, even though notice alteration requirement is almost never observed

LGPL/GPL compatibility theory

- **LGPLv3 is GPLv3-compatible because it is a permissive patch to GPLv3**

  - GPLv3: "When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it

  - "If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions."

LGPL/GPL compatibility theory

- **FSF: LGPLv3 is not GPLv2-compatible**

  - Not obvious from analysis of license texts, but in the end FSF argument (anti-lockdown requirements in LGPLv3 are "further restrictions" with respect to GPLv2 passed on by distributors) seems more coherent than any alternative

- **Conflicts with developer cultural intuition about LGPL, but FOSS developer world has generally accepted FSF position**

- **FSF: LGPLv3 is compatible with GPLv2-or-later (resulting combination is seen as GPLv3-licensed, as with GPLv2-or-later and GPLv3)**

  - Perception of GPLv2-incompatibility has probably limited LGPLv3 uptake

- **Some early concern centered around glibc, but glibc remains licensed under LGPLv2.1-or-later (with parts under GPLv2-or-later)**

  - In any event, glibc should usually qualify for GPLv2 system library exception

Some interesting (?) questions

- **Does GPLv2-or-later licensing have different meaning pre-GPLv3 and post-GPLv3?**

- **If a GPLv2-or-later project incorporates Apache 2.0 code post-GPLv3, with GPLv2 text in the COPYING file, is the license v2 or v3? (What is the analysis pre-GPLv3?)**

- **If individual source files in a GPL'd project merely refer to "GPL" (no version number), and the COPYING file contains the GPLv2 text, is the code GPLv3-compatible? What if no GPL license text? (Does pre/post-GPLv3 matter?)**

- **If an individual source file purports to contain Apache 2.0 code with LGPLv2.1 modifications, is GPLv3 the only possible effective license? (Does pre/post-GPLv3 matter?)**

Some interesting (?) questions

- **If a distributor provides nominally GPLv2-or-later Corresponding Source for a binary, can it treat the binary as GPLv2-only (or GPLv3-only)?**

- **If a project website says the software is released under GPLv3, but the source files are GPLv2-only, what is the license?**

- **If source files are GPLv3-or-later, but COPYING has the GPLv2 text, what is the license?**

  - Real case: svn repository showed that developer deliberately moved to GPLv3 but forgot to update COPYING

Patent termination and "the Program"

- **Historical background: Before GPLv1 (1989), there were individual GPLs specific to each GNU program. GPLv1 introduced the term "the Program" to facilitate making the GPL "subprogrammable"**

- **GPLv2:**

  - This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to **any** such program or work....

- **Theoretical problem: "any" is ambiguous ("a particular" vs. "all"), but no one in v2 era ever posited a broader reading of "the Program" as meaning "all GPL'd programs in the universe", rather than the specific item of GPL-licensed software a licensee has received from upstream.**

Patent termination and "the Program"

- **GPLv3:**

  - "The Program" refers to **any copyrightable work licensed under this License.**

- **Following release of GPLv3, certain companies, assuming that "the Program" had the universal meaning, worried about the impact of the patent termination clause:**

  - "[Y]ou may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

Patent termination and "the Program"

- **FSF published a paper clarifying that**

  - "the term "the Program" means one particular work that is licensed under GPLv3 and is received by a particular licensee from an upstream licensor. The Program is the particular work of software that you received in a given instance of GPLv3 licensing, as you received it."

  - The clause above "does not speak to the situation in which a ... licensee of GPLv3-covered program A, but not of unrelated GPLv3-covered program B, initiates litigation accusing program B of patent infringement"

GPLv3 and "badgeware" compatibility

- **Historical background:**

  - In 2006 OSI resisted certification of MPL-derived licenses used by certain Web 2.0 companies, containing supplementary requirement to display attribution logos in user interface screens

  - GPLv2 already had a requirement for modified versions of interactive programs to display copyright and licensing information (unless upstream version did not do so); GPLv3 refers to these as "Appropriate Legal Notices"

  - FSF had already considered limited source code author attribution preservation requirements in permissive licenses to be GPL-compatible

- **GPLv3 section 7 tolerates as compatible additional conditions that require**

  - "preservation of specified reasonable legal notices or author attributions in [covered code] or in the Appropriate Legal Notices displayed by works containing [such code]"

GPLv3 and "badgeware" compatibility

- **SugarCRM was first to take advantage of this in its "Community Edition"**

- **Source files are licensed under GPLv3 supplemented by the following terms (from v 5.1.0a):**

  - "with the addition of the following permission [sic] added to Section 15 as permitted in Section 7(a): FOR ANY PART OF THE COVERED WORK IN WHICH THE COPYRIGHT IS OWNED BY SUGARCRM, SUGARCRM DISCLAIMS THE WARRANTY OF NON INFRINGEMENT OF THIRD PARTY RIGHTS....

  - The interactive user interfaces in modified source and object code versions of this program must display Appropriate Legal Notices, as required under Section 5 of the GNU General Public License version 3.

  - In accordance with Section 7(b) of the GNU General Public License version 3, these Appropriate Legal Notices must retain the display of the "Powered by SugarCRM" logo. If the display of the logo is not reasonably feasible for technical reasons, the Appropriate Legal Notices must display the words "Powered by SugarCRM".

GPLv3 and "badgeware" compatibility

- **SugarCRM ALN notice was drafted with help of FSF and SFLC; good guidance to outer limit of acceptable interface attribution requirements under GPLv3 (and good guidance to proper use of section 7 by GPLv3 licensors)**

- **Popularity probably dampened by subsequent OSI approval of CPAL license and arrival of the Affero GPLv3 (however, Funambol and CMSimple have used similar attribution requirement with AGPL)**

- **GPLv3 does not authorize licensors to require preservation of *particular forms* of ALNs; rather, UI must**

  - include[] a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty ..., that licensees may convey the work under this License, and how to view a copy of this License [e.g a prominent item in a menu list] [and possibly specified attributions]

GPLv3 and avoiding v2 noncompliance

- **GPLv2 automatic termination: Any attempt ... to copy, modify, sublicense or distribute the Program [except as expressly provided in GPLv2] is void, and will automatically terminate your rights under this License.**

- **GPLv3's more lenient termination policy:**

  - Distributor who "**cease[s] all violation**" enjoys provisional license reinstatement "unless and until the copyright holder explicitly and finally terminates" and permanent reinstatement if no notice of violation within 60 days of cessation

  - Permanent license reinstatement for first time GPLv3 violators (for a particular licensor) if distributor **cures** within 30 days of receipt of violation notice

GPLv3 and avoiding v2 noncompliance

- **SFLC: Noncompliant redistributor of GPLv2-or-later "may want to narrow to GPLv3-only upon violation, to take advantage of the termination provisions in v3"**

- **FSF GPL FAQ:**

  - "To cure a violation means to adjust your practices to comply with the requirements of the license"

Corresponding source definition

- **GPLv2:**

  - "all the source code for all modules [the executable work] contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable"

- **GPLv3:**

  - "all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work .... For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for **shared libraries and dynamically linked subprograms that the work is specifically designed to require**, such as by intimate data communication or control flow between those subprograms and other parts of the work."

- **Arnoud Engelfriet on debian-legal:**

  - "'does linking create a derivative work' is no longer a relevant question. That's because "linking" is now an act that makes things part of the SOURCE CODE."

Contradictory GPL license notices

- **Historical background: In the GPLv2 world, GPL license notices coupled with (incompatible) prohibitions (typically on military or commercial use) were a known problem**

- **GPLv3:**

  - "You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License." [Limited categories of additional conditions customarily regarded as GPL-compatible are not treated as "further restrictions".]

  - "If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, **you may remove that term**."

Contradictory GPL license notices

■ **Real world case: ExtJS javascript library**

- Earlier releases were dual-licensed under a proprietary license and nominal LGPLv3, with suggestions that the LGPLv3 option was available only for educational or non-profit use or use "in an open source project that precludes using non-open source software" or "in a commercial application that is not a software development library or toolkit"

- ExtJS was later relicensed under GPLv3 without notice to community

- Applicability of the GPLv3 provision allowing removal of GPL-repugnant terms from GPL notices has been discussed in ExtJS forums

- There has been at least one fork of ExtJS under LGPLv3 with the repugnant terms removed from source code licensing notices

Thank you!

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