Current Developments in GPL Compliance

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Outline

About the speaker

- Programming computers since 1989
- Linux user + application developer since 1994
- Linux kernel development since 1999
- GNU GPL license enforcement since 2003
- IT security expert, network protocol security
- Board-level Electrical Engineering
- System-level Software for PPC, ARM, x86
- IANAL, but companies not complying with the license forced me to spend lots of time with legal issues

Historical development

- 1970ies: Softare becomes copyrightable
- 1980ies: GNU project, GPLv1
- 1990ies: Linux kernel, GPLv2, servers
- 2000s: Linux and FOSS is everywhere

Linux and Free Software (FOSS) everywhere

More Linux - More License Violations

- Boom of Linux results in many *new companies* using it in products
- Such Linux newbies do not have a history in the FOSS community
- They also do not share the same culture, values and norms
- They simply use Linux to reduce royalty cost for proprietary OS
- They run into trouble (GPL violations)

More License Violations - More Enforcement

- New Linux based products continue to enter the market
- License compliance often very bad
- Community is deeply upset about the violation of its rules
- Often perceived as insult of the FOSS community culture
- Lack of respect of corporations towards community
- Legal enforcement is often the only possible way for community to educate corporations

GPL enforcement

- Before 2003: Mostly Free Software Foundation
- 2003-now: gpl-violations.org (Europe), 200 cases
- 2005-2010: SFLC (United States)
- 2010-now: SFC (United States)
- publicly invisible enforcement
  - e.g. MySQL (dual-licensing)
  - e.g. Asterisk (dual-licensing)

FOSS community is technical, not legal

- FOSS is created by software developers working together in collaborative ways, often without any formal structure
- Individuals, Universities as well as Corporations contribute their work
- Cooperation in a culture of sharing
- Even direct competitors like Intel and AMD cooperate in Linux development, because everyone needs it
- FOSS communities are deeply technical. They hate company politics.
- License is **just** a last resort of protection against those who absolutely don't understand FOSS

Beyond pure legal compliance with licenses

- Compliance with the legal terms of the license is the absolute bare minimum that companies have to do
- If you use FOSS in your products, please consider establishing a healthy relationship with the communities that drive development of this software
- It is not a customer / supplier relationship!
- The community expects you to participate in development

Why should you join?

Benefits to Embedded electronics companies

- Larger number of engineers can help you improve your product
  - optimize performance (battery, speed, ...)
  - fix more bugs than your in-house R&D
  - have more ideas/innovation than all engineers combined inside your company!
- Be recognized within the community as *somebody who understands*
  - allows you to attract skilled developers from the FOSS world who would otherwise never consider working for you
  - makes you more attractive to most technical customer base of *early adopters*
- Reduce cost of maintaining your code base

How to become part of the community

- Permit your engineers to engage in technical discussions on mailing lists
- Submit your modifications to the respective upstream projects
- Join technical conferences and discuss technical issues
- Encourage the community to innovate and extend your products

When and how to release source code

- Legal requirement:
  - You're used to release source code at the time product ships because the license forces you to
- Community norm:
  - Your engineers interact with the project maintainers during R&D
  - Source code of your modifications undergoes review + inclusion in mainline

Quality of the source code release

- Legal requirement / Reality:
  - *complete and corresponding* source code
  - Often does not compile
  - Often contains proprietary kernel modules of questionable legality
  - Often provides no (simple) way of installing re-compiled program on the actual device
- Community norm:
  - *complete and corresponding* source code
  - no proprietary kernel modules that constrain e.g. updates to later kernels
  - complete utilities to install modified version of software on the device
  - maybe even some instructions on how to do so

Summary

- Show respect for the FOSS development model based on mutual respect and understanding
- Actively engage and discuss with the community
- Don't try to cheat your way out of license compliance
- Treat community as partner in development of your products
- Don't treat them like your enemy (DRM, Tivo-ization)!

Software Freedom Conservancy

- gpl-violations.org is no longer alone
- SFC is doing busybox enforcement in the US
- Some people/entities are upset about that...
- ... but we **need** to see more enforcement
- SFC activities sometimes misrepresented in public!

Software Freedom Conservancy

- It's great to see enforcement outside Europe
- It's great to see cases go to court in the US
- We need more precedent in favor of GPL enforcement to deter people from intentionally taking the risk of infringement
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Software Freedom Conservancy / beyond busybox

- Some Linux kernel developers will work with SFC
- SFC is now able to enforce GPL on Linux kernel, not just busybox
- Lots of devices have Linux kernel but no busybox (e.g. Android)

The AVM Case
Background (1/2)

- AVM is commercially most successful vendor of DSL CPE (Fritz!Box)
- They heavily use Linux and other FOSS in their products
- They also have an unusual amount of proprietary code in the devices, compared to most other vendors (e.g. bypass netfilter/iptables and use their own packet filter/NAT)
- Cybits is a German vendor of parental control / child safe content filtering software (proprietary)

The AVM Case
Background (2/2)

- Cybits has developed a version of their filtering software that can be installed by the user onto the AVM Fritz!Box
- The installation procedure downloaded a AVM firmware update, extracts the root filesystem, changes some scripts, deactivates individual programs and adds their own software into the filesystem image
- The modified image is then installed by the user into his device

The AVM Case

The Dispute (preliminary proceedings)

- AVM now asks court to grant injunction against Cybits modifying *their firmware*, based on copyright, trademark and unfair competition claims
- Court grants that injunction based on AVMs claims
- Cybits disputes that first decision
- Harald Welte / gpl-violations.org become *side intervener*

The AVM Case

The Dispute (preliminary proceedings)

- *side intervener* because AVM tries to use legal means to restrict the freedom granted by the GPL: The ability to modify GPL licensed code, and to use such modified versions
- As Cybits only modifies code that is not copyrighted by AVM, AVM cannot make copyright based claims
- Court lifts preliminary injunction on condition that some erroneous display in the web interface are resolved by Cybits

The AVM Case

The Dispute (main proceedings)

- AVM sues Cybits in main proceedings, Harald Welte side intervenes again
- AVM is making claims over claims and files tons of papers, up to a point where I have doubts that the court is able to read all of them
- Among other things, they always try to present the firmware as something whole to which they own rights. But if specifically asked, they do not explicitly claim it's a derivative or collective work
- Court accepts the fact that GPL licensed software is used

The AVM Case

The Dispute (ridiculous AVM claims)

- AVM claims that an illegal modification under copyright law is happening, as Cybits is modifying their code by unloading AVM's proprietary kernel module and replacing it with standard kernel modules like ip_tables.
- AVM claims that illegal copying happens as one of AVM's programs is copied from flash into RAM when Cybits installations scripts are executing it
- AVM claims copyright is about software, not firmware (lol)

The AVM Case

December 2011: The verdict

- Court rules that AVM cannot restrict Cybits based on copyright law due to the provisions of the GPL
- Court rules that the firmware (including all GPL and non-gpl licensed components) constitutes a collective work
- Court rules that thus the entire collective work becomes *infected* by the GPL (!)

The AVM Case
Analysis of the verdict

- Court has made a very far-reaching verdict
- What is the result of the *infection* of the collective work?
- Why is it not *mere aggregation on a storage medium*?
- Was AVM insisting that the firmware is somehow one item/entity all along the court case the reason for this somewhat unexpected outcome?

The AVM Case

What do we learn from it?

- Some companies are behaving outrageous in terms of GPL compliance
- Trying to fight very hard to restrict the freedom of the GPL can come back very hard to your own disadvantage.
- AVM has publicly proven that they're probably the worst aggressor against the freedom of the GPL, and they have failed to get away with it.

Chinese Android Phones

- traditionally, we only see major brands/vendors like HTC, Samsung, LG, Motorola in Europe
- at the moment, TCT, ZTE, Huawei and others are starting to become available
- we're taking a *very* close look at all those devices and have just obtained an injunction against TCT Mobile (Alcatel branded)
- Chinese vendors must learn that they have to respect copyright and the GPL when they ship to EU or US market

Chinese Oscilloscopes (DSO)

- did you know there are fairly decent Linux based DSO (digital storage oscilloscopes) available?
- wouldn't every system-level engineer dream of being able to enhance the software on a DSO with his custom analysis / trigger / protocol decoder code? Or for factory testing/automation purpose?
- as part of GPL enforcement, Hantek/Tekway have now released the source code to bootloader/kernel, including the kernel drivers for their DSO hardware!

no-name / store-branded OEM devices

- Actually found one German "cheap electronics vendor" who sell more than 13 currently active products in a completely GPL in-compliant way
- Pretty big surprise, given all the enforcement that has been done in recent years

Cooperation with Free Software Foundation Europe

- Cases that we have finished enforcement on are handed over to FSFE
- FSFE volunteers will continue to monitor compliance, especially of firmware updates for them
- If any such future incompliance is found, case gets handed back to gpl-violations.org for enforcement of contractual penalty and declaration of cease+desist
- Contractual penalty gets donated to FSFE

Thanks

- Thanks for your attention
- Feel free to raise questions