Linux Kernel license violations

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Linux kernel

- Over 14 million lines of code
- Over 1000 contributors per release
- Over 150 contributing vendors per release
- Estimated at over $1 billion to reimplement

Linux is a compelling platform

- Broad hardware support

- Widespread engineering availability

- Several pre-existing userspace platforms

- Price is hard to beat

Linux is very cheap

- No financial compensation required
- License compliance very straightforward

GNU GPL version 2

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange;

In a nutshell:

- Include the source

- Provide an offer to provide the source on request

Is this easy?

Is this easy?

- Yes

Does this story end well?

Does this story end well?

- (No)

Android tablets
(A case study of compliance)

- Tablets increasingly popular in the face of the ipad

- Android an obvious choice for an alternative

  - Touch-based

  - Many developers

  - Huge application base

  - Supported by many SoC vendors

Large number of SoCs

- Well-known vendors

  - Samsung, TI, Qualcomm, Nvidia

- Huge number of new vendors

  - Telechips, Wondermedia, Rockchip, ZTE

- Even some unexpected vendors

  - Createive (Zii)

SoC vendors typically have no responsibility to end customer

- No business relationship exists between them at all

Cheap tablets now flooding the US market

- Walgreens
- CVS
- Best Buy
- Macy's
- Radio Shack
- Bed, Bath and Beyond
- Sears
- Many, many more

Compliance is dreadful

- Vast majority of tablets on market make no attempt at compliance

Compliant tablets

- Barnes and Noble (after customer action)

- Viewsonic gtablet (after customer action)

- Entourage Edge (after customer action)

- Better vendors...

  - Samsung

  - Dell

Phones

- Situation better
- (But not hugely better)

Phones

- Majority of large vendors roughly compliant

  - ...but source releases often lag well behind binaries

- HTC are most obvious example, but most as bad

Phones

- Small vendors often make no effort at compliance

How did we get here?

- Ignorance
    - Many vendors rebadge foreign products
    - No legal oversight at all
- Poor priorities
    - Source release not part of product release process
    - Firmware updates made without source updates
- Knowing infringement
    - Simply seen as low risk

Existing GPL enforcement efforts

- gpl-violations.org
  - Success against several significant vendors
  - Actions typically low-key during negotiation
  - Long process
- Software Freedom Law Center
  - Typically enforcing Busybox rather than Linux kernel
  - High profile success against Westinghouse
  - Several ongoing cases

Are there easier ways?

- ITC complaint
  - Effectively uneffective
  - But very easy!
  - Can get vendor attention and press

DMCA

- Safe harbor provisions protect ISPs providing they follow takedown procedure

- Takedown procedure straightforward

- Typically effective

  - MPAA

- Only possible online

  - Firmware updates

Section 337

- 1930s theft act forbids unfair competition in imported articles

- Can be used to block imports if a domestic industry based on copyrighted works exists

- If the copyright is unregistered, substantial damage to the domestic industry must be demonstrated

Copyright lawsuit

- Tends to require a registered copyright

- Statutory damages and fees require registration before infringement

Awkwardnesses

- Linux has multiple authors
  - Joint work?
  - Collective work?
- No registered copyright
  - Prerequisite for many aspects of US enforcement
  - Register individual sections?

Time for action is now

- Customers are being left unaware of their rights

- Compliant vendors are at a disadvantage

  - Non-compliant vendors can use their work

  - No reciprocation

Options

- Enforcement of subsections of the kernel
  - Eg, netfilter
- More guerrilla tactics
  - Make infringement awkward, bad PR
- Is the risk of diminishing takeup worth it?
  - Who would step in?

Questions?