



**GPLv3 & LGPLv3:  
“Installation Information” Requirement**

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# Disclaimer

- GPLv3 and LGPLv3 are legal documents
  - But I am not your lawyer
  - For GPL/LGPLv3 questions, ask your own lawyer
  - This presentation is *\*not\** legal advice to you by me
  - Some of the analysis is simplified for ease of understanding
- This presentation is a general survey of the GPL/LGPLv3 Installation Information requirement
  - To allow for discussion
  - Contains input from several different entities
  - *\*Not\** the opinions of Intel, FSF or FSFE

Background picture: Media-TIC by Matt Clark, join the dots  
(<http://www.flickr.com/photos/jointhedots/>)

# Installation Information requirement: Why?

- Digital Millennium Copyright Act (DMCA) & Digital Rights Management (DRM) considered to be “anti-freedom”
- Device hardware, firmware & software locks deny users “freedoms” to modify software installed on the hardware.
  - Impediment against modification generally referred to as “TiVOisation”

# Installation Information Requirement: Why?

- TiVO DVR device
  - GPLv2
  - Hardware/firmware checksum
  - Stop “FreeVO”
- Not all saw TiVOisation as a problem needing a solution
  - “I think there are many quite valid reasons to sign... your [GPL] kernel images, and while some of the uses of signing are odious, I don’t see any sane way to distinguish between ‘good’ signers and ‘bad’ signers.” – Linus Torvalds

# GPLv3 & LGPLv3: Anti-“Anti-Circumvention”

- USA’s DMCA or any international equivalent can’t be used as a mechanism to prevent licensees from exercising all rights granted under GPLv3&LGPLv3
  - Examples in GPLv2/LGPLv2?
  - Designed to get ahead of potential future attempts to use DMCA to limit GPL rights

# GPLv3 & LGPLv3: Anti-Software Lockdown

- User must be allowed to reinstall GPL/LGPLv3 software (including modifications) on any device on which GPL/LGPLv3 software is provided to be installed
  - *\*If\** device is a “User Product”
  - *\*If\** device is distributed through a sale or long term lease
  - *\*Unless\** no one (including device manufacturer) has ability to reinstall modified GPL/LGPLv3 binaries on the device
  - Note: If user installs GPL/LGPLv3 modifications, device maker *\*may\** void warranty or service contract.
    - But may not void contract for network services (cable, Wi-Fi, cellular) unless modifications will damage the network or violate network protocols.

# GPLv3&LGPLv3: Compliance Rules

- Compliance Made Easy (“Rule 1”)
  - If you distribute a product or device that uses GPL/LGPLv3 code, make sure anyone getting that device is enabled to modify the GPL/LGPLv3 source code and install it on the device
- Other compliance rules
  - If you don’t want to follow Rule 1 then:
    - Don’t let the device leave your hands or execute the GPL/LGPLv3 code on a remote server and don’t convey that code to the device user (“**Rule 2**”)
  - If you don’t want to follow Rule 2 then:
    - Give up your own ability to modify and install the GPL/LGPLv3 code on the device once the device leaves your hands (“**Rule 3**”)

# GPLv3&LGPLv3: Compliance Rules

- Other compliance rules
  - If you don't want to follow Rule 3 then:
    - Stay out of the business of “Consumer Products” (“**Rule 4**”)
  - If you don't want to follow Rule 4 then:
    - Police GPL/LGPLv3 user modifications only through voiding warranty or service contracts, or cutting off access to your network (“**Rule 5**”)
  - If you don't want to follow Rule 5 then:
    - Don't put GPL/LGPLv3 software on your device (“**Rule 6**”)

# Compliance in the Marketplace

- GPL/LGPLv3 after 4 years
    - Still a fraction of all FLOSS projects
      - GPLv3 + LGPLv3 = 7%
      - GPLv2 + LGPLv2.1 = 54%
- (Source: Black Duck  
<http://www.blackducksoftware.com/oss/licenses>)
- Current trend seems to follow Rule 6 at least in some “Consumer Device” classes such as mobile phones

# Compliance in the Marketplace

- Rule 6 avoids issue of compliance with Installation Information requirement but causes other complications
  - Lose access to community
  - May require private maintenance of v3-free forks
    - Or creation of non-v3 alternatives
    - As uptake of v3 licenses increases, benefits of using free software evaporates.

# Where May the Marketplace Move?

- At some point the marketplace will face a cross roads:
  - Option 1: abandon most use of GPL&LGPL code on “Consumer Devices” altogether
  - Option 2: be prepared to operate within one of the Rules 1 to 5
- Companies don't want to get to the cross-roads without thinking through long before hand what option they would ultimately choose
  - Example: If you don't have a full stack of non-GPLv3/LGPLv3 code ready for when you reach the crossroad, your only choice may be Option 2

# Making the Crossroads Decision Easier

- Free software advocates
  - Are all lockdowns bad?
  - Certain project maintainers want to prevent device manufacturer from shying away from using their code
  - Publish clear and easy compliance guidelines that shows both how to use GPL/LGPLv3 correctly and still secure some parts of your device
    - Assuming you don't find Rules 1-6 clear enough...
- Project Maintainers
  - If considering switch to, or launch using, GPL/LGPLv3
    - Make use of “Additional Permission” (Canola project)
  - Give notice of transition period before releasing code under these licenses
  - Consider LGPLv3 for your project so Installation Information Requirement doesn't impact other parts of the software stack on a device

# Making the Crossroads Decision Easier

- Device manufacturers
  - Begin getting comfortable with Rules 1 to 5
    - Do you really need to try to control modifications?
    - Do you really need to retain your own ability to modify?
    - Is voiding of warranty or service contract enough of a disincentive for most modders?
    - Outreach by FLOSS community to show manufacturers that these are commercially viable options might help
  - Start thinking costs vs. benefit of abandoning use of free software
  - Think through what device software features need lockdown, and how to engineer those outside of the free software parts of your stack



# Background

European Opensource & Free Software Law Event  
Barcelona, November 4, 2011  
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# Background: DMCA

- DMCA (17 USC 1201):
  - “No person shall circumvent a technological measure that effectively controls access to a work protected under this title [i.e., U.S. Copyright Law].”
  - “As used in this subsection—
    - (A) to ‘circumvent a technological measure’ means to descramble a scrambled work, to decrypt an encrypted work, or otherwise to avoid, bypass, remove, deactivate, or impair a technological measure, without the authority of the copyright owner; and
    - (B) a technological measure ‘effectively controls access to a work’ if the measure, in the ordinary course of its operation, requires the application of information, or a process or a treatment, with the authority of the copyright owner, to gain access to the work.”
- WIPO Copyright Treaty, Art. 11:
  - “Contracting Parties shall provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorized by the authors concerned or permitted by law.”

# GPLv3 & LGPLv3 : DMCA Provision

- GPLv3, Section 3:
  - “No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.”
  - **“When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.”**

# GPLv3 & LGPLv3: “Installation Information”

- GPL v 3, Section 6:
  - “If you convey an object code work under this section **in, or with, or specifically for use in, a User Product**, and the conveying occurs as part of a transaction in which the **right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term** (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section **must be accompanied by the Installation Information**. But this requirement **does not apply if neither you nor any third party retains the ability to install modified object code on the User Product** (for example, the work has been installed in ROM).”
  - “A ‘**User Product**’ is either (1) a ‘consumer product’, which means **any tangible personal property which is normally used for personal, family, or household purposes**, or (2) anything designed or sold **for incorporation into a dwelling**. In determining whether a product is a consumer product, **doubtful cases shall be resolved in favor of coverage**. For a particular product received by a particular user, ‘**normally used**’ refers to a **typical or common use of that class of product**, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product **regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.**”

# GPLv3 & LGPLv3: “Installation Information”

- GPL v 3, Section 6:
  - **“‘Installation Information’ for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.”**
  - **“The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed.”**
  - **“Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.”**