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Torvalds On TiVo

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TiVo uses the open source Linux operating system in its digital video recorders and gets a lot of heat from people in the Free and Open Source Software (FOSS) community because those boxes aren't as open as hackers would like them to be.

Oddly enough, however, Linus Torvalds, who created Linux and oversees its development, isn't among the complainers. In an e-mail interview with Forbes, he explains his position.

Forbes: TiVo is criticized for placing digital rights management restrictions on content. What is your take on this?

Torvalds: TiVo has the DRM issue (media companies have strong-armed them into not being as useful as they could be), but the thing that clashes with some in the FOSS community is that they make it hard to upgrade their box with another version of Linux. Which I personally think is OK--they made the box, they choose how to upgrade it. I only care that they give the source code back, not that they make it easy, or necessarily even possible, to play with their hardware. Again, it's the "reciprocity of source code" versus the "freedom of software" thing.

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Exhibit 1020

refuse to run it unless the cryptographic signature matches the vendor's signature. So you may have the full source code for the box, and you can build your own binary, but unless you have the vendor's private key, you're going to have a really hard time signing your new binary as being "trusted" by the hardware. Now, this is a bit offensive, isn't it? You bought the hardware. It's in your living room. And even if you knew how to fix some problem, the hardware is literally built to not allow you to.

You say what TiVo is doing is "a bit offensive." So why not use GPLv3 [GNU General Public License] to make them stop doing it?

In my worldview, it's OK for other people to do stupid things. I can complain about it, but in the end, it's their choice. If somebody offends me too much, I'll stop dealing with them. Now, I've had to limit my choice of long-distance phone companies because of this practice of mine, but I think it's more productive in the long run than trying to be "activist" with software licensing. Activism and technical decisions just don't mix well.

Why does TiVo get singled out? Aren't there other companies who do the same thing TiVo does with Linux?

I think TiVo gets singled out just because it's an example that a lot of people can relate to. It's something people understand and often interact with themselves (or know people who do). The same kind of thing happens in other embedded Linux uses too: cell phones, network routers, you name it. It's just that they don't have the name and usage recognition that TiVo has.

Part of the complaint involves the inability to upgrade Linux. But isn't DRM an issue too?

Yes. A large part of why they [TiVo] don't want people to upgrade seems to be that they're afraid of the backlash from media companies when people make a TiVo box into a streaming media server. You do realize that the TiVo hardware could easily just connect to the network (it already does), and you could watch your TiVo'ed TV shows from your computer or recode them to take them on the road with a video iPod? These things you could do if you just upgraded it yourself.

If you were to adopt GPLv3 as it is written to today, would TiVo be unable to use future versions of Linux if it also continued imposing DRM restrictions on content? Isn't that rule part of the GPLv3 draft?

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That part is a bit muddled and unclear. There's a "DRM" section in the GPLv3, but the way I read it, it doesn't seem to actually say very much. More of a statement of intent than any legal argument. So I would leave arguing against that part to others.

If you did adopt GPLv3 as it is written today, how would this affect TiVo? Couldn't they just keep using and modifying old versions of Linux that were shipped before you adopted GPLv3?

Indeed, they could do that, and probably it wouldn't be a problem for TiVo. I think it would be more of an issue for the next mad scientist that comes along and wants to use Linux for something new and revolutionary, and then starts worrying about the usage restrictions. That's part of why I don't like to restrict usage. Most crazy people are just crazy, but sometimes you have somebody coming up with an odd new idea that actually turns out to be great. By not having restrictions on usage, GPLv2 doesn't restrict anything like that--it just asks for the source code.

Do you not have any desire to hack your own TiVo box?

I actually might hack it. I'm just not that interested in TV, and I'm busy enough as it is. The sad part is that people playing with your hardware is actually a good thing. Companies that make it difficult either do it because they are stupid (that certainly happens) or because they have external forces pressuring them to do so (e.g., media companies and TiVo). I could set up a totally open source PVR [personal video recorder] on one of my computers. I actually did that once, just for the heck of it. In the end, I use TiVo because it's convenient for me, and I don't care that deeply.

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