WeGet letters

by Michael W Lucas

Dear Michael,

As you know, KV is a fan of FreeBSD and of travel. Over the years, I've been through Lenovos, Dells, System 76, and some wacky one offs, and it seems that every couple of years, the things that work or don't work when I first load FreeBSD, change, and then I get to track down all the device IDs and try to update drivers so that FreeBSD can be my Daily Driver on my laptop. Although there is a pretty detailed Wiki page for FreeBSD on Laptops (https://wiki.freebsd.org/Laptops), what I've always wanted to see is a "FreeBSD Laptop Shootout," though I admit that some days I just want to shoot my laptop. Surely you have some advice for me and for your readers on how to pick a laptop and make it work as your primary interface to all things FreeBSD. What brands consistently work? Does X11 and the like work well? Will FreeBSD eat my battery, as it's already eaten my brain? How about networking and the Wi-Fis? There must be a way to cut this cake so that I and others can have it and eat it too!

—KV

KV? As in Kode Vicious?

As in the person who suggested George V Neville-Neil chain this albatross of a letter column around my neck? (https://freebsdfoundation.org/past-issues/big-data/) That Kode Vicious? Surely not! No, really, it can't be. He'd know better than to show himself around these parts--especially as, over three years into this travesty of a column, George still hasn't paid me. Never mind that mailing gelato presents challenges and a pandemic has scrambled conferences, travel, and life for two of those years. I refuse to permit my indignation to be undone by any puny "reality."

But this is my only letter this month, and I refuse to disappoint either of my devoted fans. Yes, yes, I had three, but one was unable to withstand any further exposure to the Truth and had to

bow out. I don't blame him for that. I blame him for thinking he was strong enough in the first place, but that's completely separate. I suppose I must allow my righteous distress to further ferment, at least until I have opportunity to properly express my displeasure. Tickets to the event will be $20 each, and all proceeds will go to the Vexed Columnist Legal Defense Fund. Bring a raincoat and eye protection, some of the flying bits might be sharp.

So: Laptops.

Laptops are the worst possible hardware for running an open-source operating system, with the possible exception of a deceased badger. Laptop manufacturers pull every scam they can imagine to reduce weight and power consumption. When it comes to cutting costs, they solicit scams from their suppliers. If a laptop manufacturer needs everything on a printed circuit board shifted a quarter millimeter to the left so they can accommodate the power cable for the wallet vacuum, the component manufacturer will merrily create a new part number without changing any of the hardware's design or firmware—unless, of course, they want to slip a minor change into this new model, nothing to worry about, we're just rearranging the ABI to put the commands in base twelve order as per ancient Sumerians, those ancient priests had the right idea and it's so much simpler than the finger method our executives rely on today. The device model numbers are irrelevant except when they're vital, and the manufacturer's contribution to the development process is a proprietary screen color tuning button that's hooked into a legacy PS2 connector because they got the case cheap on Overstock.

And you want to run FreeBSD on one of these?

The easiest way is to make someone else do the work. The FreeBSD laptop wiki is sadly under advertised, but it's a great place to check before buying a laptop. Many of the laptops listed there are older, but any laptop built in the last decade probably has sufficient computing power for your trivial workloads if you replace the spinning rust with a flash drive. Perusal of the wiki would lead me to believe that ThinkPads are not a bad choice, as much as any laptop can be "not bad."

But suppose you want a brand-new model. The odds of a brand-new laptop being fully supported are finite, but negligible. You might get pretty close, though, especially if you don't choose hardware released last week.

The easiest way to figure out a decent model is to go to a store that has an intriguing model and booting off a USB drive. Unfortunately, wannabe hackers asked store clerks if they could reboot from a USB to load lame malware onto aforementioned floor models, so you're stuck making friends with corporate IT and testing new models before they get the mandated image.

Without such access, you're stuck going to the manufacturer's web site and checking the laptop's technical specifications. That's great, except for the specifications not being specific. With any luck, you can get information on the video, sound, and network.

Graphics vendors delight in keeping details of their hardware private. Presumably they'd rather pay for people to write device drivers than have bored developers deliver said drivers for free. The FreeBSD wiki has a page on graphics (https://wiki.freebsd.org/Graphics), including compatibility matrixes for X.org, so you have a small hope of not wasting that beautiful retina display.

While you can get perfectly adequate USB sound and network devices that will certainly work with your laptop, many people have this narrow-minded insistence that what comes inside laptop should just work. But remember that part where device manufacturers might—or might not—change part numbers when they make trivial changes? Yeah. That. Fortunately, sound is mostly supported. Network cards get new models with the change of the moon, but you might get lucky.

Suppose you took the plunge, bought a laptop, and found that one or two little things don't work. What can you possibly do? You fix it, of course. Failing that, you make it super easy for someone else to fix it. Most FreeBSD developers are running -CURRENT, so you'll want a way to boot -CURRENT on your laptop. One of those flash drive installations is enough. Then run FreeBSD's "spill your hardware's guts" command, `pciconf -lv`. This dumps complete information about all the devices controlled and managed through the system's PCI bus, which is basically everything except the padded box it arrived in.

Then compose a message for hackers@freebsd.org. I've written elsewhere about that message, so I'm not going to belabor the topic any further unless the one person who makes it this far in the article sends a note asking me to tell them how to be something other than a complete jerk in email. The weirdly generous folks there get a thrill out of making new hardware work but be sure to treat them well and thank them kindly. Some of them can hold a grudge for decades against an innocent letters columnist who was having a spectacularly bad day.

It's not that the output will let the hacker support your device. But it provides vital clues. FreeBSD developers are well accustomed to transforming breadcrumbs into miracles, but if you lure one into helping you, expect multiple rounds of back-and-forth debugging and testing. You'll be building and trying new kernels at the very least.

Once you understand exactly how poorly you chose a laptop, the least you can do is update the wiki.

Have a question for Michael?
Send it to letters@freebsdjournal.org

letters@ freebsdjournal.org

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