Mudi Cellular Router

I have a real need for some kind of Internet communication independent of someone else's connection. I work remotely at times. I'm also a technician and occasionally clients need me because their Internet service is down.

I have several choices. I can use my T-Mobile Cell phone (which has a hot-spot capability), or I can use a dedicated hot-spot purchased from T-Mobile. I've found that a dedicated hot-spot actually gets a data signal when my cell phone doesn't, so I went with that option. But, the hot-spots offered by T-Mobile are pretty limited, and very locked down.

Mine was getting old, so I decided it was time to replace it. I wanted to find something that better met my needs. After a lot of searching, I found the Mudi; a portable 4G/LTE router from a company I never heard of named GL-iNet. It is their model GL-E750, and a direct link is below, though you can find it on other places like Amazon if you want.

https://store.gl-inet.com/collections/all/products/mudigl-e750-travel-4g-router

It is actually a router, with OpenWrt installed (and Tor, and a bunch of other stuff). So, open source. That is a plus. Physically, it is slightly larger than a cell phone, but a lot heavier due to the 7000 milliamp hour battery.

It also has the ability to do wired networking. That is a major thing I wanted. *And* it comes with the necessary hardware already (a USB-C dongle with a network connection and a power passthrough, so you can charge while using it).

I got mine today, went to the T-Mobile store and got a SIM, plugged it in and booted up, connecting from my Chromebook using the simple instructions on the card included. Went through the very simple configuration screen and, boom, it is working. I'm not a big fan of “Automated Configuration” but this was a new machine, with warranty, so I tried it. It flawlessly found my SIM and set it up, making the connection. I then went through the configuration WebUI (they call it an MCU), changed my LAN IP, set my time zone, changed the admin password, wireless SSID, stuff like that. But, really, there was nothing to do if you wanted the default (which I consider a security problem, so I never do it).

Out of curiosity, I ssh'd to the routers IP. ssh root@router.ip, and gave it the administrator password I had created during the setup. This is an installation of OpenWrt v19.07.8 which, if you don't know, is a very well regarded Linux system designed for devices like routers and other things.

At my company, we build routers and sell them to clients, so of course, my office has one. Mine has an extra port for Internet access which was planned for a fail over in case my primary Internet Service Provider went down (which happens). One of the reasons I wanted the LAN connection was to be able to plug this in when that happened again.

I plugged the Mudi into my SmartAppliances router and, with a few simple configuration changes, my Mudi is now my backup Internet connection. I tested it by setting the Mudi as the backup WAN device, then unplugging the primary device. The router realized it was down and automatically swapped to the cellular router.

There was a lot of thought put into this, or maybe it is a function of OpenWrt; I don't know. But, the

device will act as a router, an Access Point and a Range Extender. The wired network connection can be b4e your LAN or used as the WAN source, but with your device(s) protected by the firewall.

The DHCP server allows you to use static IP Binding (aka Sticky IP). The firewall lets you set up port forwards, open up ports on the router, or even set up a DMZ. Oh, and you can tether the device to your cell phone, so the data flows through there instead of devices actual data plan.

You can even plug in a microSD filled with files and access them directly from devices plugged into the router. It appears to only support SMBv1 and SMBv2, so I had problems connecting from my Chromebook, since it appears to only support SMBv3 (native, I got it working with an app from the AppStore). The block device (USB/MicroSD) can be formatted using vfat or ext4 (and a few more).

Oh, and good documentation: https://docs.gl-inet.com/en/3/setup/gl-e750/first_time_setup/ and https://docs.gl-inet.com/en/3/ for samples. Also, their forum at https://forum.gl-inet.com/ is full of help.

Had a small problem. When I tested it the first time, I found that Ookla found I was downloading at only 0.2Mb/s. I think I have had faster acoustical modems. I checked out the forum, and a couple of other places, then I figured I'd try out their support system. Excellent. I sent an e-mail and got a reply within a couple of hours, suggesting I do a couple of things, and promising to have future solutions if none of those worked. Really, really liking this company, a lot. Bottom line is, I made one change and it is now working very well. I'll probably play a little and see if I can't tweak some additional speed out of it (getting 57Mb/s down), but for my needs, and that of my clients, this is definitely a Good Thing ™.

Bad news; this appears to only work flawlessly with T-Mobile in the US. There are several comments at Amazon about how to get it to work with other cellular providers, but the instructions are not that great and they explicitly say the cellular providers have no idea what you need to do to get it working. See the Q&A at https://www.amazon.com/GL-iNet-T-Mobile-EC25-AFFA-Installed-WireGuard/dp/B082X2DLMY. The forum at gl-inet also helps quite a bit. But, indications are if you're tech inclined, or know someone who is, you can get it to work with a bit of research and testing.

I'm very pleased with this purchase, and wish more people would monetize Open Source (and give some of the money back to the developers).

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