

MY WEIRD PROMPTS

Podcast Transcript

EPISODE #166

Ditching the Tank: Lightweight Linux Router Alternatives

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EPISODE SYNOPSIS

When a weekend of troubleshooting turns into a networking nightmare, it is time to rethink the complexity of the modern home lab. In this episode, Herman and Corn dive deep into the world of lightweight Linux-based networking, moving away from heavy-duty security appliances like OPNsense in favor of more efficient, "set-it-and-forget-it" solutions. From running OpenWrt on x86 hardware to building a modular DIY router using Debian, Cockpit, and AdGuard Home, the duo explores how to maintain professional-grade control without the massive resource overhead or the "complexity tax" of enterprise-grade firewalls.

DANIEL'S PROMPT

Daniel

I've been using OPNsense on a mini PC to manage my home network, but it feels like overkill for my needs. Can you recommend a lighter, open-source alternative for Linux? I'm looking for something that handles DHCP and static IP assignments, DNS, basic ad-blocking, and local proxy features like HAProxy, while also providing a graphical user interface for easier management.

TRANSCRIPT

Corn

Hey everyone, welcome back to My Weird Prompts. I am Corn, and I am here in our living room in Jerusalem with my brother.

Herman

Herman Poppleberry, at your service. And man, Corn, do we have a relatable one today. Our housemate Daniel was just telling us about his weekend, and it sounds like he spent most of it in the trenches of home networking.

Corn

It is the classic story, right? The internet goes down, you spend hours tweaking your custom firewall, checking logs, questioning every configuration choice you have made in the last three years, only to find out it was the internet service provider's hardware that actually gave up the ghost.

Herman

It is devastating. You want it to be your fault because then you can fix it. But when it is the provider, you are just at their mercy. But Daniel's struggle actually sparked a really interesting question. He has been running OPNsense on a mini PC to manage everything here, but after this weekend, he is realizing it might be overkill. He is looking for something lighter, something Linux-based, and something that does not feel like you are trying to manage the Pentagon's network just to get some Wi-Fi in the kitchen.

Corn

Right, because OPNsense is powerful, but it is built on FreeBSD, and it is a full-blown security appliance. For a home user who just wants stable dynamic host configuration protocol, some domain name system filtering, and a nice interface, it can feel like driving a tank to the grocery store.

Herman

Exactly. And Daniel has some specific requirements. He wants that graphical user interface, he wants ad-blocking, and he needs local proxy features like HAProxy. So today, we are going deep into the world of lightweight Linux-based network management. We are moving away from the heavy-duty firewalls and looking at what else is out there for the twenty twenty-six home lab.

Corn

I think this is a great topic because the landscape has changed so much. We are in episode two hundred seventy-three now, and if we look back at some of our earlier discussions, like episode forty where we talked about OPNsense and Tailscale, the focus was often on maximum security and complexity. But there is a growing movement toward simplicity and "set it and forget it" reliability.

Herman

Definitely. And you know, being here in Jerusalem, we have some unique challenges with local providers. Daniel mentioned the issues with PPPoE, which stands for point-to-point protocol over Ethernet. A lot of the fiber providers here use it, and it can be a real pain to get working correctly on certain hardware. OPNsense handles it, but it can be finicky.

Corn

So let us start with the "why." Why move away from OPNsense? If it works, why change it?

Herman

Well, the first thing is resource overhead. OPNsense, being based on FreeBSD, has a different driver model than Linux. If you are using a modern mini PC with Intel i-two-twenty-five or i-two-twenty-six network cards, Linux often has better, more stable support out of the box. Plus, OPNsense is a stateful firewall first and foremost. If you do not need complex rules, you are paying a "complexity tax" every time you want to make a simple change.

Corn

That makes sense. It is like having to fill out a three-page form just to change the color of your front door. So, if we are looking for a lighter Linux alternative, where do we even begin?

Herman

The most obvious candidate, and one that I think a lot of people overlook for x-eighty-six hardware, is OpenWrt.

Corn

Wait, isn't OpenWrt just for those cheap little plastic routers you buy at the store?

Herman

That is the common misconception! But OpenWrt is actually a fully-fledged, incredibly lightweight Linux distribution. You can download an x-eighty-six image and run it on a mini PC, and it is screamingly fast. We are talking about a base system that uses maybe sixty megabytes of random access memory. Compare that to OPNsense, which usually wants at least two or four gigabytes to be comfortable.

Corn

Sixty megabytes? That is practically nothing. But does it have the features Daniel wants? He mentioned a graphical interface and ad-blocking.

Herman

It does. The interface is called LuCI, and it is very clean. It is not as "pretty" as a modern web app, but it is functional and fast. For ad-blocking, you have a package called Adblock-Lean or you can use the more powerful simple-adblock. It handles dynamic host configuration protocol and static internet protocol assignments perfectly. And since it is Linux, you have access to the entire repository of packages.

Corn

What about the proxy stuff? He mentioned HAProxy for things like hairpinning and managing local services.

Herman

This is where OpenWrt shines. You can install HAProxy directly as a package. But here is the thing, Corn. If Daniel finds OPNsense too complex, he might find the raw configuration of HAProxy on OpenWrt a bit daunting. There is a learning curve there.

Corn

So maybe we should look at something that is a bit more "user-friendly" in the interface department. What about something like AdGuard Home?

Herman

Oh, I love AdGuard Home. It is not a full router operating system, though. It is more of a service. But you can run it on a basic Linux install, like Debian or Ubuntu Server. It handles your domain name system, it does incredible ad-blocking with a really beautiful interface, and it can even act as your dynamic host configuration protocol server.

Corn

Okay, so if Daniel took his mini PC, put a basic Linux distro on it, and installed AdGuard Home, he would have the domain name system and the dynamic host configuration protocol covered with a great interface. But what about the routing and the proxying?

Herman

Right, that is the missing piece. If he goes that route, he is essentially building a "Franken-router." He would need to configure Linux to act as a router using something like nftables or the older iptables. And for the proxy, he could use Nginx Proxy Manager. It has a great graphical interface and handles all the Let's Encrypt certificates for you.

Corn

That sounds like a lot of different pieces to manage. Is there anything that brings it all together?

Herman

There is a project called CasaOS, or even Umbrel, which are essentially "home server operating systems" that sit on top of Linux. They give you a beautiful dashboard where you can install apps as containers. You could have your ad-blocking, your proxy, and your management all in one place. But again, they are not really designed to be the "edge" router. They usually sit behind a router.

Corn

And that is the problem Daniel is having. He wants something to replace the ISP router's brains while keeping the ISP hardware in bridge mode. By the way, for those who do not know, bridge mode is just making the ISP box act like a dumb modem so your own hardware can do the heavy lifting.

Herman

Exactly. And in Israel, that can be tricky depending on whether you are on fiber or cable. If Daniel wants a single, unified Linux-based system that is lighter than OPNsense but still a "router," I think we have to look at some of the more specialized Linux distros. Have you heard of VyOS?

Corn

I have heard the name, but isn't that mostly command-line based? Daniel specifically asked for a graphical user interface.

Herman

You are right, VyOS is a beast, but it is very much for the terminal junkies. So let us pivot. What if he stays with a standard Linux install, like Debian, but uses a management tool like Cockpit?

Corn

Cockpit! I remember we touched on that in episode two hundred sixty-nine when we were talking about workstations. It is a web-based interface for Linux servers, right?

Herman

Yes! And it is fantastic. You install it on a regular Linux box, and suddenly you have a web interface to manage your network interfaces, your storage, and even your containers. There is a plugin for Cockpit called "navigator" that lets you manage files, and there are networking plugins too. It would give him that "graphical" feel without the overhead of a dedicated firewall OS.

Corn

That sounds like a strong contender. He could have a rock-solid Debian base, use Cockpit for the general management, and then run AdGuard Home and HAProxy on top of that. It is all Linux, it is all open-source, and it is definitely lighter than OPNsense.

Herman

It is. But we have to talk about the "hairpinning" issue he mentioned. For the listeners, hairpinning, or NAT loopback, is when you are inside your home network and you try to access your own public internet protocol address. A lot of routers struggle with this. They see the request going out and coming right back in and they get confused.

Corn

Right, so if I am at home and I type in "my-website-dot-com," and that website is hosted on a server in my basement, the router needs to know to just loop that traffic back internally instead of sending it out to the internet and back.

Herman

Exactly. HAProxy is great for this, but it requires some specific configuration. If Daniel moves to a lighter Linux setup, he will have to make sure his routing rules are set up to handle that loopback. It is actually easier in Linux than it is in FreeBSD sometimes, because the nftables syntax is so much more logical.

Corn

You know, I'm thinking about the "overkill" aspect. Daniel said he spent all day troubleshooting. One of the benefits of OPNsense is that it has a very robust "state" view. You can see exactly what is happening with every packet. Do these lighter alternatives give you that same level of visibility?

Herman

Not out of the box, no. And that is the trade-off. OPNsense is like an airplane cockpit. There are gauges for everything. If you go with a "DIY" Linux router with Cockpit and AdGuard, you are more like a driver in a sleek, minimalist electric car. You see the speed and the battery, but if you want to know the temperature of the third motor winding, you have to dig into the menus.

Corn

I think Daniel might be okay with that. He wants to avoid the frustration of a system that is so complex it becomes a liability when things go wrong.

Herman

I totally get that. There is a certain peace of mind that comes with a simple system. But before we go any further into the "how-to" of setting this up, let us take a quick break for our sponsors.

Corn

Good idea. Larry: Are you tired of your neighbors stealing your Wi-Fi signals? Are you worried that the very air in your home is cluttered with unorganized data packets? Introducing the Router Rug. It is not just a rug; it is a proprietary, multi-layered fabric shield infused with quantum-aligned charcoal fibers. Simply place the Router Rug over your existing router, and it immediately begins absorbing "data noise" and "bad connectivity vibes." Our testers report a sixty percent increase in "internet smoothness" and a total elimination of ghostly interference from microwave ovens. It comes in three colors: Beige, Stealth Gray, and Invisible. The Router Rug. Because your data deserves a cozy place to sleep. Larry: BUY NOW!

Corn

...Alright, thanks Larry. I am not sure I want to cover my router with a rug, charcoal-infused or otherwise. That sounds like a fire hazard.

Herman

It sounds like a great way to melt your plastic casing, for sure. Anyway, back to Daniel's network. We were talking about Linux-based alternatives to OPNsense. We have covered OpenWrt on x-eighty-six, and the "DIY" approach with Debian, Cockpit, and AdGuard Home. But there is one more option I want to throw into the ring.

Corn

What is that?

Herman

Untangle, which is now part of Arista. Or even Sophos Home.

Corn

Wait, aren't those often commercial?

Herman

They have free tiers for home users, but honestly, I think they might fall into the same "overkill" trap as OPNsense. They are very heavy on the "security appliance" side. If Daniel wants "light," those probably aren't it.

Corn

So let us look closer at the OpenWrt on x-eighty-six idea. If he goes that route, how does he handle the HAProxy requirement? Because that seems to be a big part of his workflow.

Herman

So, OpenWrt has an HAProxy package, but it does not have a fancy web interface for it by default. He would be editing a text file. However, there is a middle ground. He could run OpenWrt as his main router, and then run a tiny virtual machine or a container for Nginx Proxy Manager.

Corn

Oh, that is interesting. So the "router" stays super lean and focused on just moving packets, and the "services" like proxying and ad-blocking live in their own little containers.

Herman

Exactly. This is what a lot of high-end home labbers are doing in twenty twenty-six. They use a "Proxmox" base on their mini PC. Proxmox is a virtualization environment based on Debian. You install it on the mini PC, and then you run your router as one virtual machine and your services as others.

Corn

But wait, doesn't that add even more complexity? Daniel wants "lighter" and "less overkill."

Herman

It sounds complex, but it actually simplifies troubleshooting. If the "proxy" breaks, your internet doesn't go down. If you want to try a new ad-blocker, you don't risk borking your routing table. You can take snapshots of your virtual machines before you make changes. It is like having a "undo" button for your whole network.

Corn

I see. So if he had used that setup this past weekend, he could have quickly looked at the Proxmox dashboard, seen that the router virtual machine was running fine, and immediately known the problem was upstream with the ISP.

Herman

Exactly. And the resource overhead is surprisingly low. Proxmox itself is very efficient. You could run a virtualized OpenWrt and an AdGuard Home container and still use less power and random access memory than a bare-metal OPNsense install.

Corn

That is a really compelling argument. It gives you the "modularity" that OPNsense lacks. In OPNsense, everything is baked into one giant monolithic system. If one part hangs, the whole thing can get weird.

Herman

And since he is in Jerusalem, he can find a lot of support for this kind of setup in the local forums. There is a very active community here of people tweaking their fiber connections. They have figured out all the specific settings for the local ISPs, like the virtual local area network tags you need to get the connection to authorize.

Corn

Let us talk about the "graphical user interface" requirement again. If he goes with OpenWrt, is he going to be disappointed by the interface compared to OPNsense?

Herman

It is a different aesthetic. OPNsense looks like a professional enterprise tool. OpenWrt looks like... well, a router. But it is very snappy. In OPNsense, when you click "apply," you often have to wait ten or fifteen seconds for the services to restart. In OpenWrt, it is almost instantaneous. For a guy who just wants to assign a static internet protocol to his new smart toaster, that speed is a huge quality-of-life improvement.

Corn

I think that is a big point. The "friction" of the interface matters. If it feels like a chore to log in and change a setting, you just won't do it. Or you will do it wrong.

Herman

Right. And let us talk about the ad-blocking. AdGuard Home's interface is miles ahead of anything in OPNsense's Unbound or blocklist settings. It shows you real-time queries, it has one-click blocking for specific services like TikTok or Facebook, and it is just... pretty. If Daniel wants a graphical interface that actually feels modern, AdGuard Home is the gold standard right now.

Corn

So, if we were to give Daniel a "recipe" for his new, lighter setup, what would it look like?

Herman

I think there are two paths. Path A is the "Pure and Simple" path. Install OpenWrt directly on the mini PC. Use the LuCI web interface. Install the AdGuard Home package directly onto OpenWrt. It is possible, and it works well. For the proxy, use the HAProxy package and spend an hour learning the configuration syntax. It is a single file, and once it is set, you rarely touch it.

Corn

And Path B?

Herman

Path B is the "Modern Home Lab" path. Install Proxmox as the base. Run a small virtual machine for OpenWrt to handle the routing and the ISP connection. Then run a separate Linux container for AdGuard Home and another for Nginx Proxy Manager. This gives him the ultimate graphical interface for every single component.

Corn

I like Path B. It feels more "twenty twenty-six." It uses the power of the mini PC more effectively. Those mini PCs usually have four or six cores and sixteen gigabytes of random access memory. Running just OpenWrt on that is like using a Ferrari to pull a lawnmower.

Herman

It really is. And with Path B, he can also run other things. He mentioned a network attached storage and a home server. He could run his file sharing or a media server on the same hardware without them interfering with the router.

Corn

One thing I want to circle back to is the ISP router issue. Daniel mentioned his ISP gave him a new router. If he moves to this new setup, does he still need that ISP box?

Herman

In most cases here, yes, but only as a bridge. Some people try to replace the ISP box entirely with a fiber-to-Ethernet media converter, but that can be a headache with certain providers because of the authentication they require. Keeping the ISP box in bridge mode is usually the path of least resistance. It handles the physical connection, and Daniel's mini PC handles all the "intelligence."

Corn

And if the internet goes down again, he will have a much clearer picture of where the break is.

Herman

Exactly. If he can ping the ISP router but not the outside world, he knows it is a provider issue. If he can't even get to his own gateway, he knows it is his hardware.

Corn

You know, we should mention a common misconception here. A lot of people think that "open source" means "more complex." But in the case of something like AdGuard Home or OpenWrt, it is often the opposite. They are focused on doing one thing really well, whereas the proprietary or enterprise stuff tries to be everything to everyone.

Herman

That is so true. Complexity is a choice. OPNsense chooses to be a security powerhouse. OpenWrt chooses to be a versatile networking tool. Daniel is realizing he does not need the powerhouse; he needs the tool.

Corn

I think this applies to so many things in tech. We get caught up in the "best" or "most powerful" option, but the "best" is really just whatever fits your specific needs without adding unnecessary stress to your life.

Herman

Spoken like a true philosopher, Corn. Or at least like someone who has also spent too many Sundays troubleshooting a network.

Corn

Guilty as charged. So, to recap for Daniel: If you want the absolute lightest, most integrated experience, go OpenWrt bare metal. If you want the best "graphical" experience and room to grow, go Proxmox with virtualized components. Both will be significantly lighter than OPNsense and will give you back those hours of your weekend.

Herman

And they will both handle your static internet protocols and your dynamic host configuration protocol with ease. Plus, the ad-blocking on both is top-tier.

Corn

Before we wrap up, I have to ask... Herman, have you ever considered the Router Rug?

Herman

Only if it comes with a matching "Quantum Modem Mitten." I wouldn't want the modem to feel left out of the charcoal-infused goodness.

Corn

Fair point. Well, this has been a great deep dive. I hope this helps Daniel, and anyone else out there who is feeling a bit overwhelmed by their own home network setup.

Herman

Definitely. And hey, if you are listening and you have found a lightweight setup that you love, or if you have questions about the specific ISP quirks here in Jerusalem, we would love to hear from you.

Corn

Absolutely. And if you have been enjoying the show, we would really appreciate a quick review on your podcast app or on Spotify. It genuinely helps other people find us and join the conversation.

Herman

It really does. We see every single one of them and it means a lot.

Corn

You can find us on Spotify, and check out our website at myweirdprompts-dot-com for the full archive of episodes, including those ones we mentioned earlier about mainframes and workstations.

Herman

This has been My Weird Prompts. Thanks for sticking with us through the rabbit holes.

Corn

We will be back next week with another prompt from Daniel. Until then, keep your packets organized and your latency low.

Herman

And maybe keep your rugs on the floor, not on your electronics.

Corn

Good advice. Bye everyone!

Herman

Bye!