

# the homeserver talk

# whoami

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# agenda

0. What counts as a homeserver?
1. Why you should run one?
2. How do you get started?
3. All the gotchas!
4. CTA

# homeserver

A *computer* which runs service(s) for personal use.

# why?

# **motivation?**

1. owning your data

# motivation?

1. owning your data
2. de-googling

# motivation?

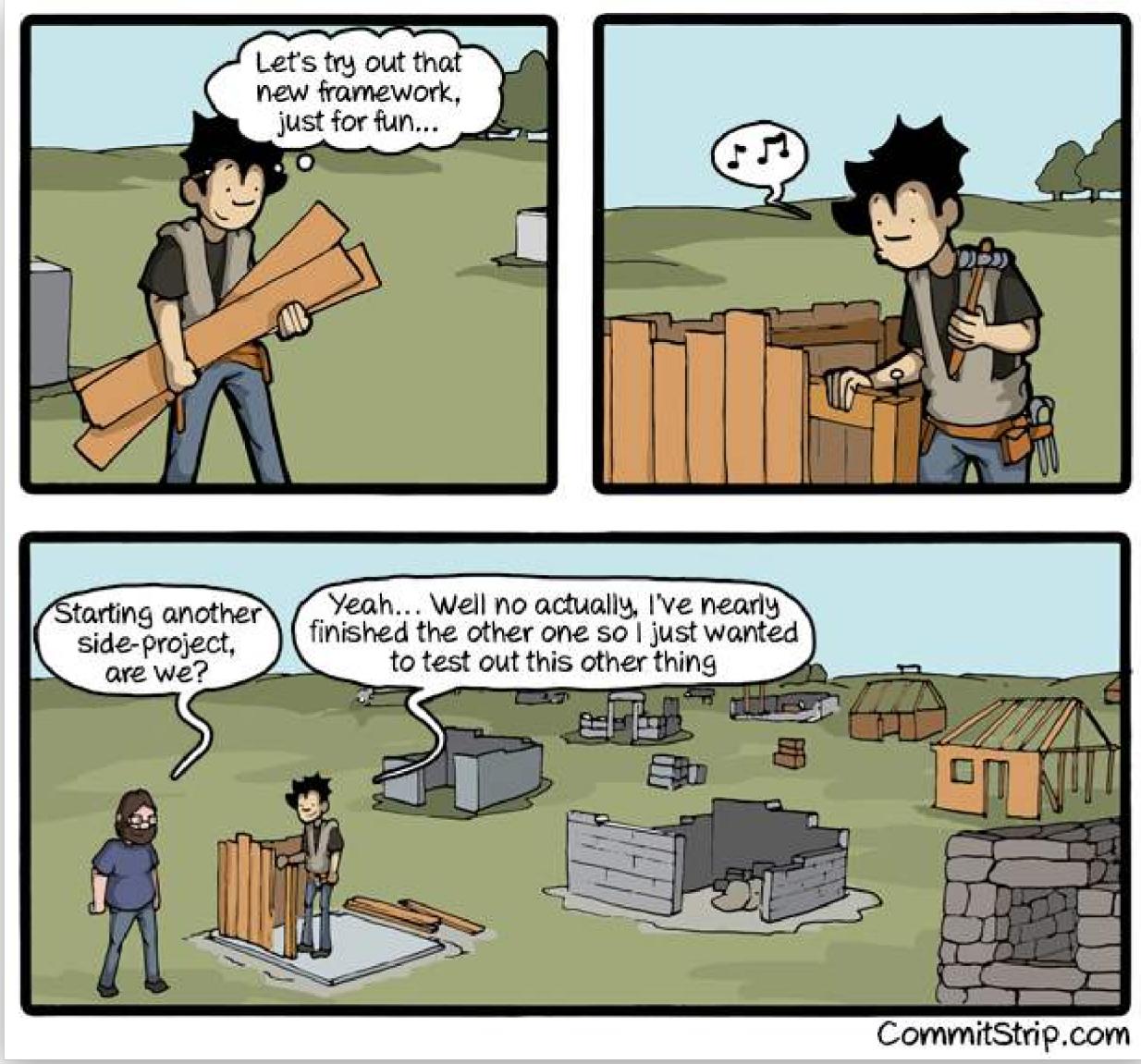
1. owning your data
2. de-googling
3. backing up your data locally

# motivation?

1. owning your data
2. de-googling
3. backing up your data locally
4. learning/experimenting with tech

# motivation?

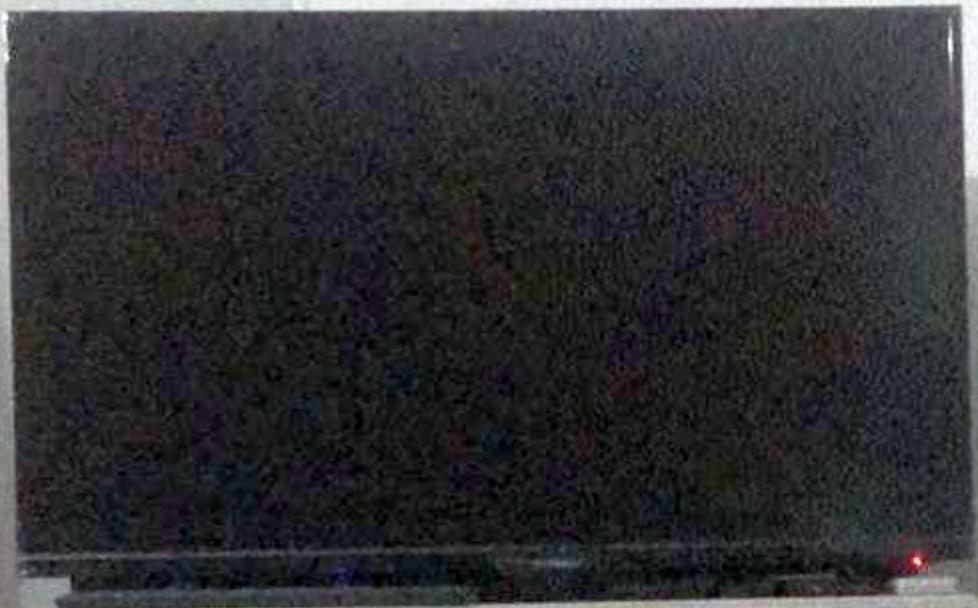
1. owning your data
2. de-googling
3. backing up your data locally
4. learning/experimenting with tech
5. playing mario



# time?

*<5 hr a month*





software

hardware

glue

# what I run?

## Monitoring

- Prometheus
- Grafana
- speedtest-exporter
- [ACT Exporter](#)
- CAdvisor

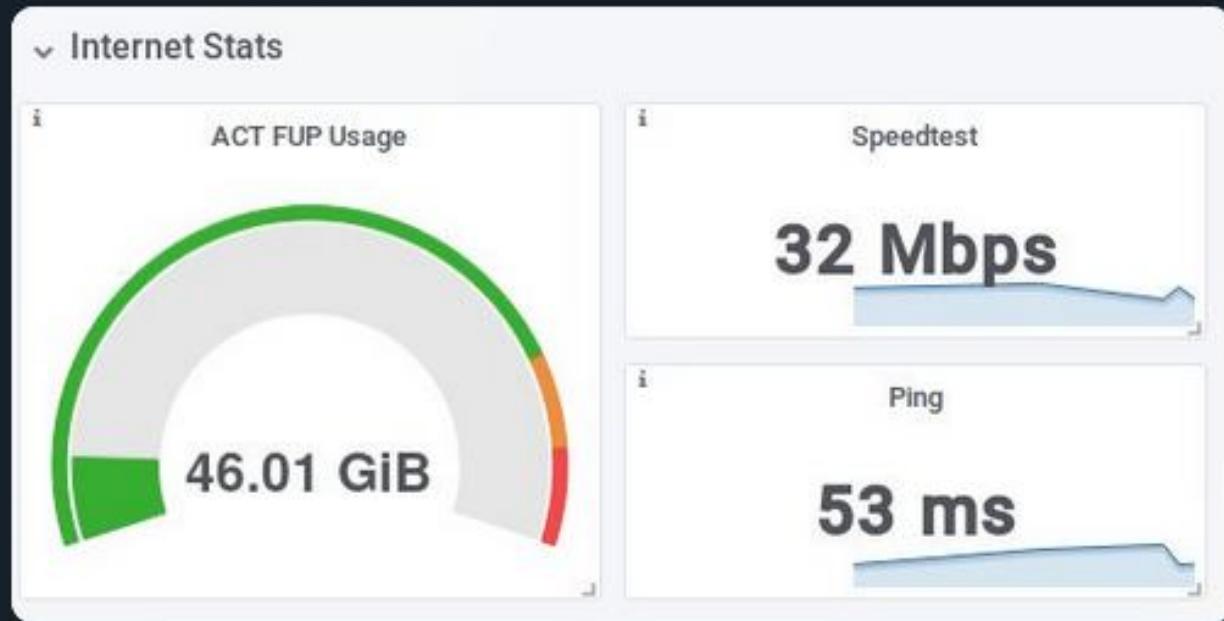


Nemo

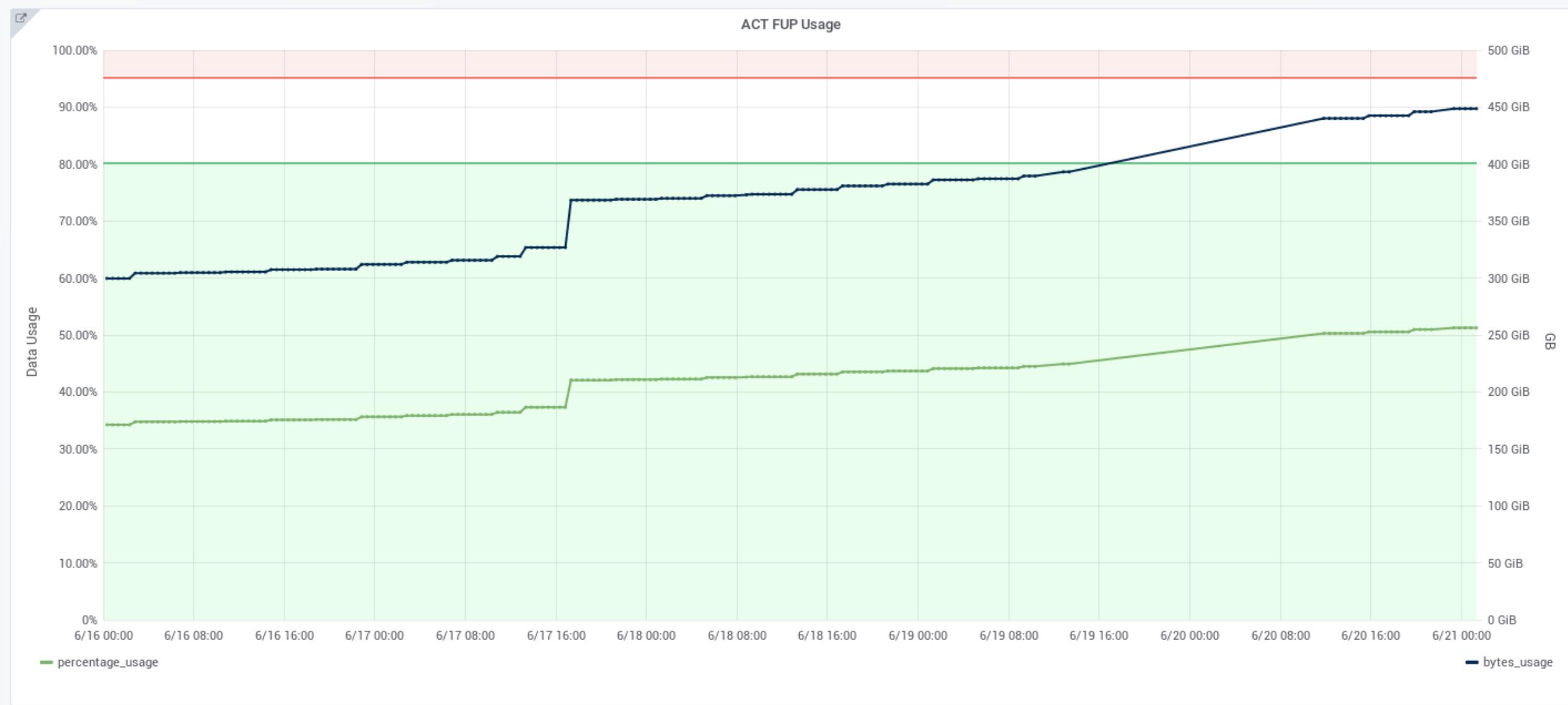
@captN3m0

I wrote a `#prometheus` exporter for  
`@ACTFibernet`. Opens the ACT portal with  
`@googlechrome` puppeteer and reports back  
the current usage. Try it out at  
[grafana.bb8.fun](http://grafana.bb8.fun)

Source: [git.captnemo.in/nemo/prometheu...](https://git.captnemo.in/nemo/prometheu...)



8:47 PM - 4 Jun 2018



# Media

- Airsonic (🎵) (Google Play)
- Jellyfin (🎥) (Netflix)
- Kodi (📺) (Home Theater)
- Audioserve (🎙️ 📖) (Audible)

# Content

- [Nextcloud](#)   (Drive/Calendar/Contacts/Documents)
- [Miniflux](#) ( ) (Feeds)
- [Timemachine](#) ( 
- [wiki.js](#)
- [Radicale](#)   (Contacts/Calendar)
- [RSS Bridge](#)
- [Gitea](#) (GitHub)
- [ZNC](#) (IRC)

# hardware

# Specs

- Intel i5-7600 3.5GHz
- Nvidia 1050 Ti 4GB
- 2x8GB DDR4 RAM
- 3x3TB Internal HDD
- MSI B250I Motherboard



- DO 1vCPU / 2GB RAM / 30GB SSD (\$10/mo) (BLR1 region)
- + 100GB disk

# A VM on the

- Scaleway: 4ARMv8/2GB/50GB - **300 INR**
- AWS Lightsail: 1vCPU/512MB/20GB - **250 INR**
- Digital Ocean: 1vCPU/1GB/25GB - **350 INR**

*Beware of Persistent Storage cost*



- Security: Footgun
- Batteries included
- OpEx

# cloud storage

Storage	Cost/month	Retail
1TB-SSD	\$100	\$99
3TB-SSD	\$300	\$224
1TB	\$25	\$45
3TB	\$75	\$84

*Indicative AWS:EBS Prices*

# Raspberry Pi 3

- 📋 1GB RAM
- 🌐 Wireless/BLE/Ethernet
- 💡 4 USB ports
- 🎵 Audio/HDMI/Composite VGA
- ⚡ 2.5A
- 💰 ~3k INR
- 📸, GPIO



# system76 Meerkat



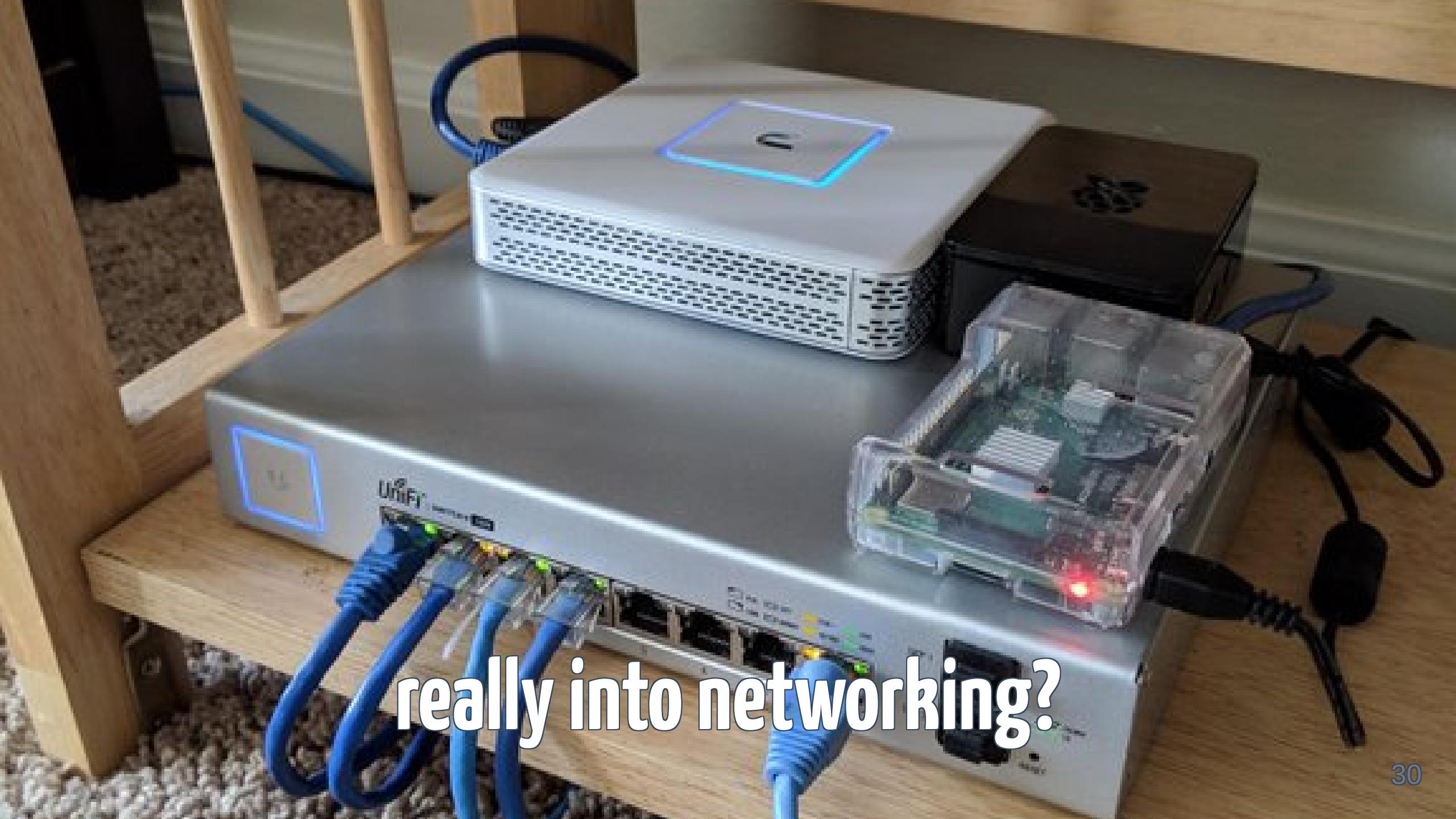
# Other Alternatives

1. Intel NUCs
2. [Hetzner Server Auctions](#) (20-50USD/mo).
3. NAS/Network device.
4. Gamer? [r/pcmasterrace/wiki](#)

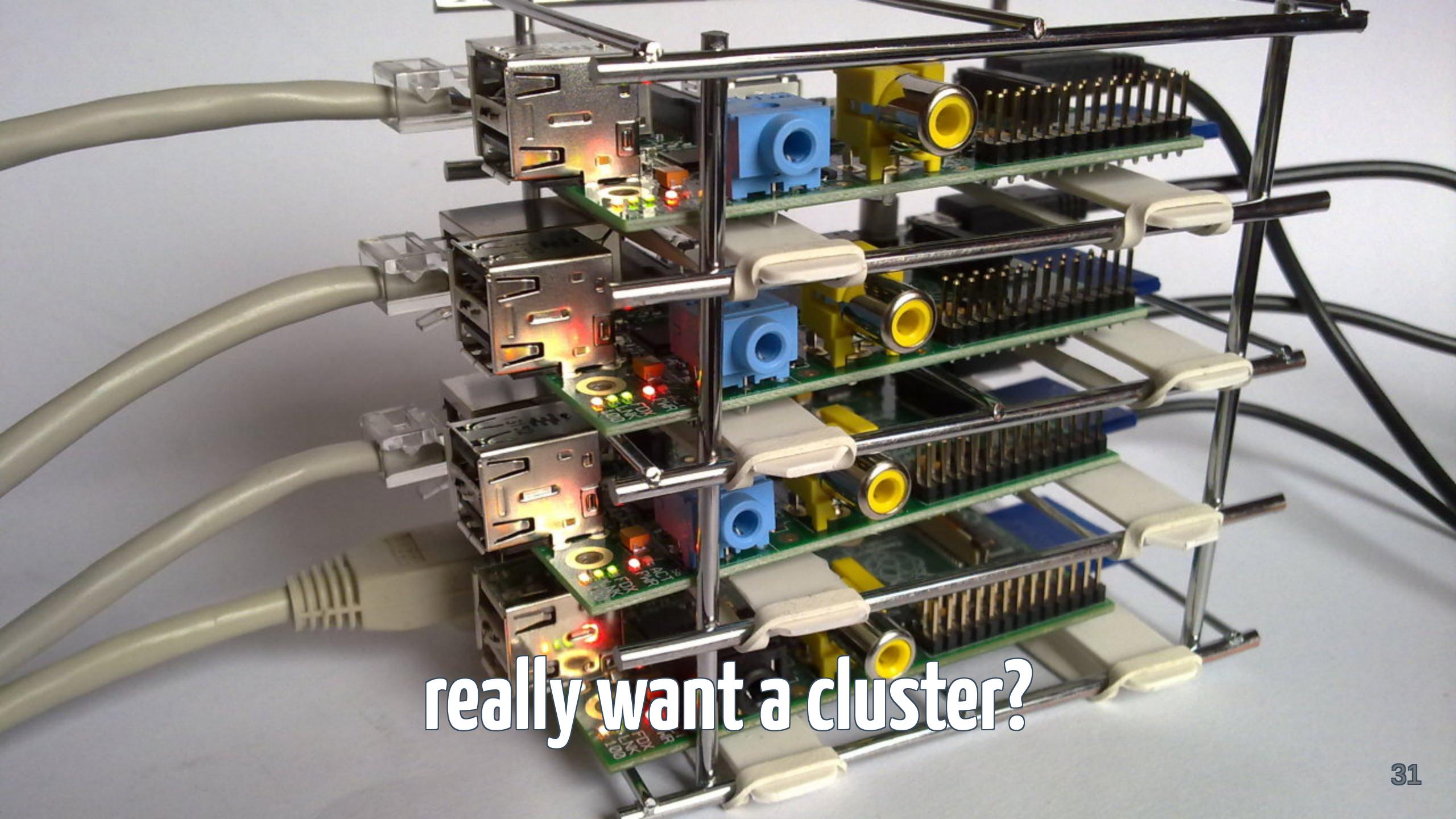




have some old laptops?



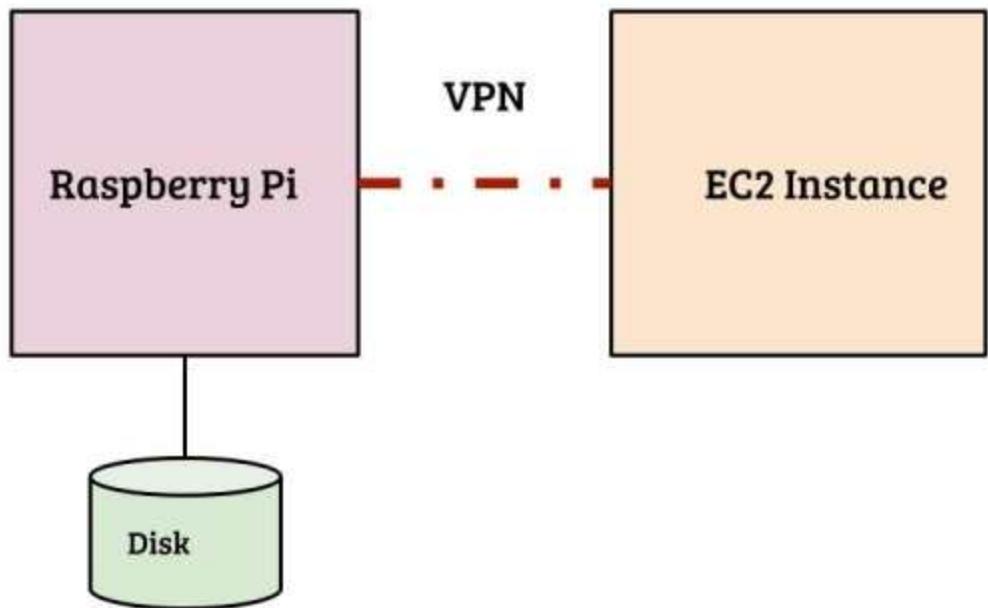
really into networking?



really want a cluster?

# Hybrid

- Local Disk, Cloud Compute



	<b>Cloud</b>	<b>Pi</b>	<b>PC*</b>	<b>Hybrid</b>	<b>NAS</b>
<b>Security</b> 	+	++	++	+	++
<b>Utility</b>	+++	-	 	++	-
<b>Cost</b>		+++	++	+	++
<b>Setup-Ease</b>	+	+	-	--	++
<b>Ops-Ease</b>	++	-	+	-	++
<b>Storage</b>	--	-	+	++	++
<b>Gaming</b>	--	-	++	++	--
<b>HTPC</b>	 	+	++	++	+

glue

# software

1. docker \*
2. kubernetes
3. ansible/puppet/chef
4. helm?
5. [tool-of-your-choice](#)
6. [Unraid](#)
7. [HomelabOS](#)

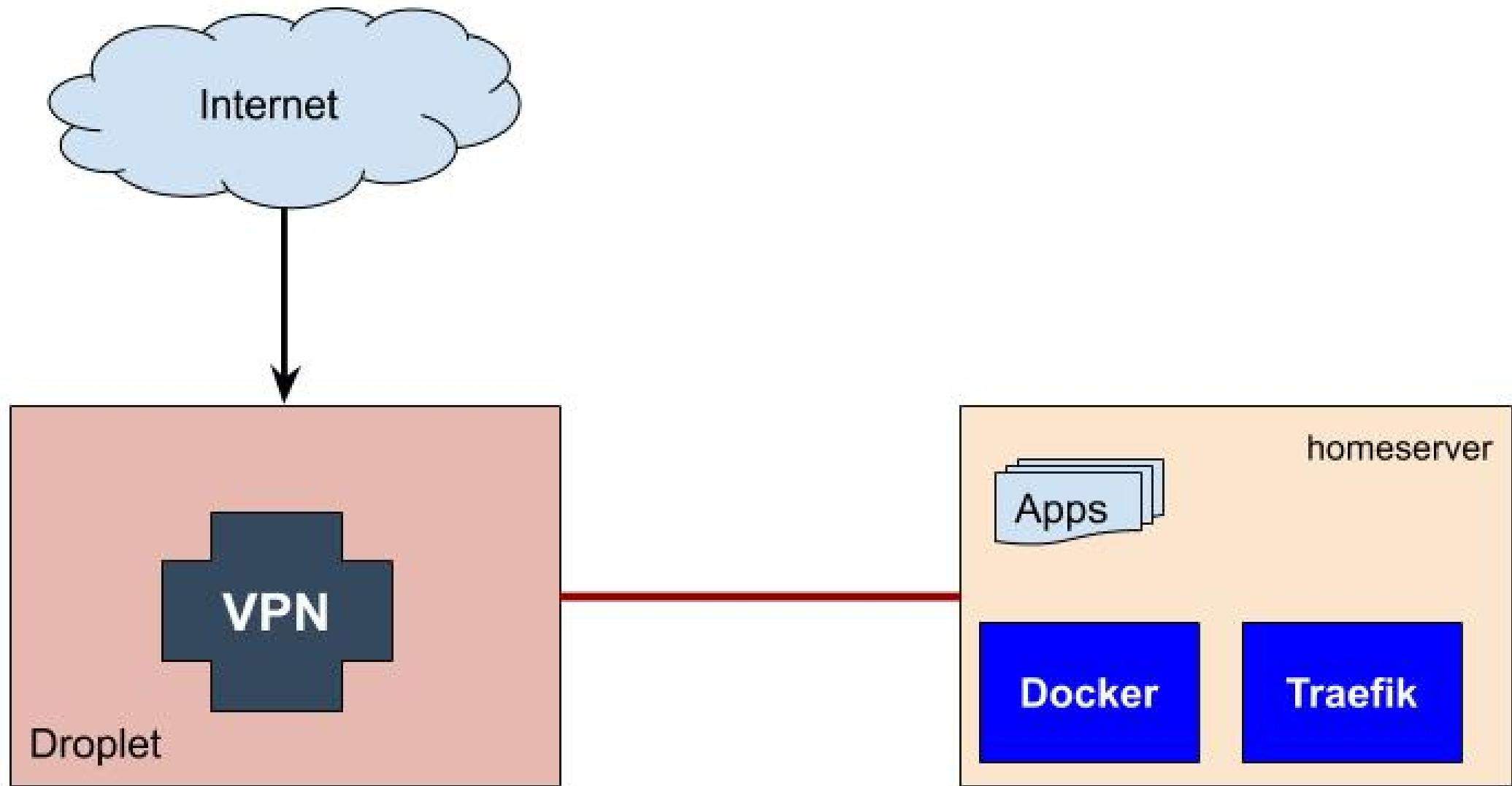
pick something dumb

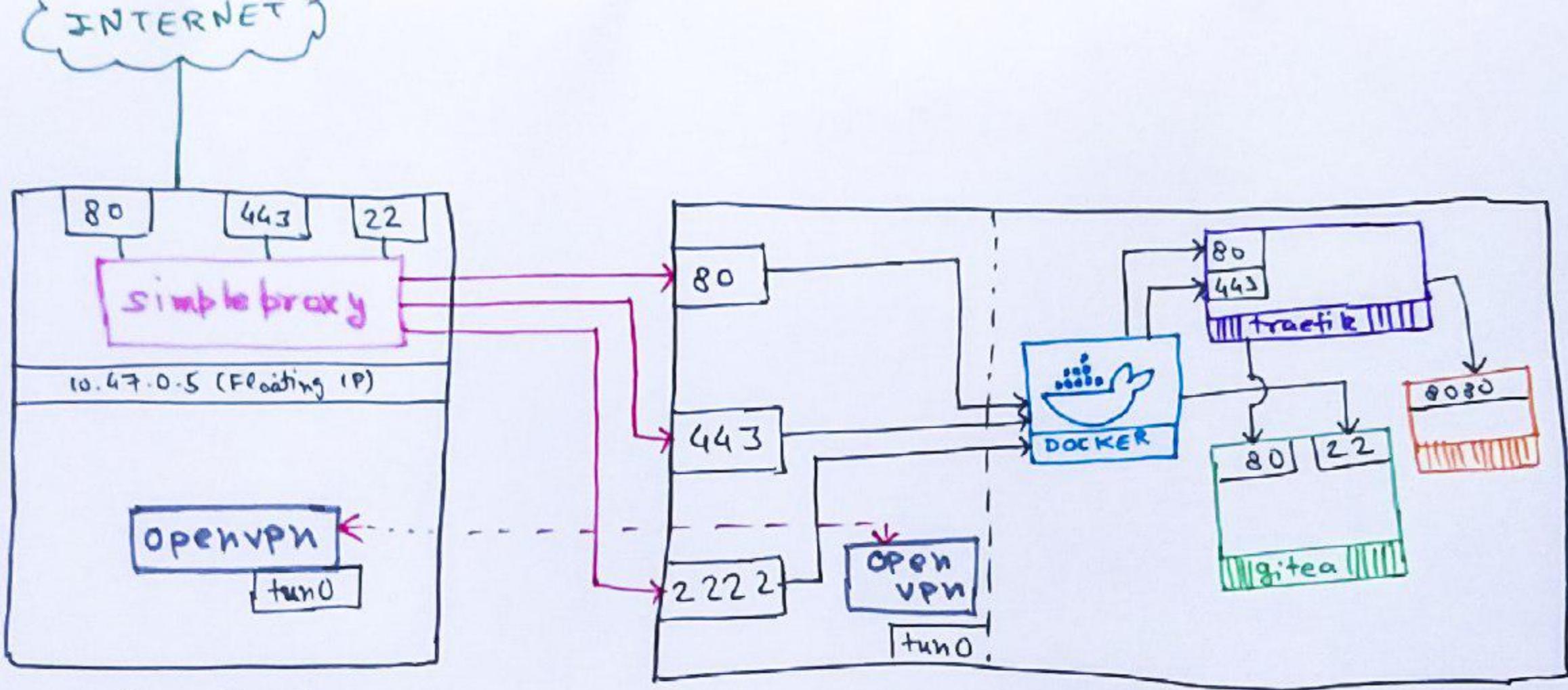
# containers?

- secure
- declarative configuration
- orchestration is 100x easier

# networking

- Public + Static IP Address
- Floating/Elastic IP
- VPN
- Wildcard DNS/TLS





sydney.bbd.fun

(BLRI, Digital Ocean)

home server  
(tatooine)

- openVPN encrypted traffic
- public internet traffic
- internal traffic

# security

# security

0. Run everything in isolation
1. Don't expose services
2. Expose services without auth over VPN only
3. Don't expose management services over Internet
4. Keep services behind Auth (even Basic Auth works)
5. Go Hybrid

**buy a raspberry pi today**

# self-hosting references

- [kickball/awesome-selfhosted](#)
- [linuxserver.io](#)
- [r/selfhosted](#)

# questions?

- [me@captnemo.in](mailto:me@captnemo.in)
- [@captn3m0](https://twitter.com/captn3m0)
- [captnemo.in/archive.html](http://captnemo.in/archive.html)
- [captnemo.in/talks/](http://captnemo.in/talks/)