

**SECURE
ACCESS**

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<https://blog.thym.at/glt24>

WHO AM I?

- Student at Graz University of Technology 
- DevOps Engineer/Automation Specialist at [smaXtec](#)

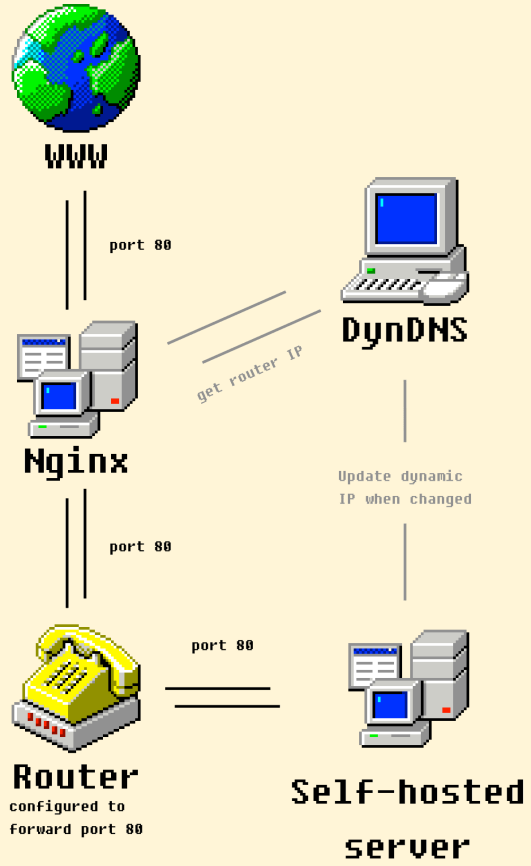
- Linux Advocate and Avid User of FOSS 
- Daily Driving NixOS since 2020 

CONVENTIONAL SETUP

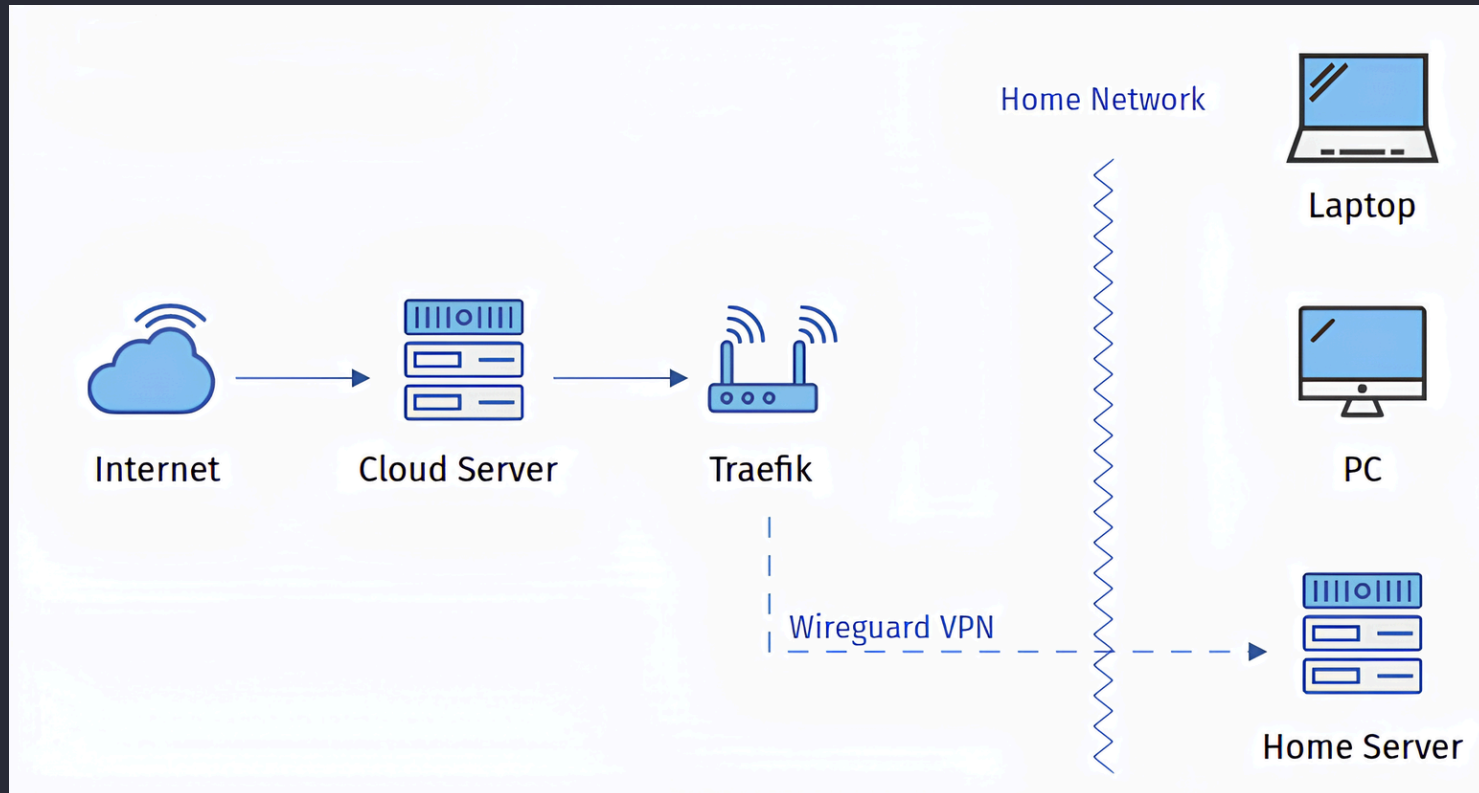
ISSUES WITH CONVENTIONAL SETUP

- Dynamic DNS not the most reliable
- **Exposed port(s) on home network** 🙄

A typical port-forwarding scenario



IMPROVED SETUP



ISSUES WITH CONVENTIONAL SETUP

- WireGuard can be difficult to setup and manage
 - Key distribution for all nodes
 - NAT Traversal and Firewall Exceptions

PROPOSED SETUP

- Small rented VPS with public IP
- WireGuard data plane
- Tailscale clients (most platforms)
- Headscale coordination server on VPS
- Reverse proxy on VPS

RENTED VPS WITH PUBLIC IP

hosted by
netcup[®]

VPS 200 G10s






- ✓ 2 vCores (x86)
- ✓ 2 GB RAM
- ✓ 40 GB SSD (RAID10)
- ✓ 80 TB Traffic
- ✓ Remote-console etc.

[Details >](#)

0.005€/hour, per month:

3.25€

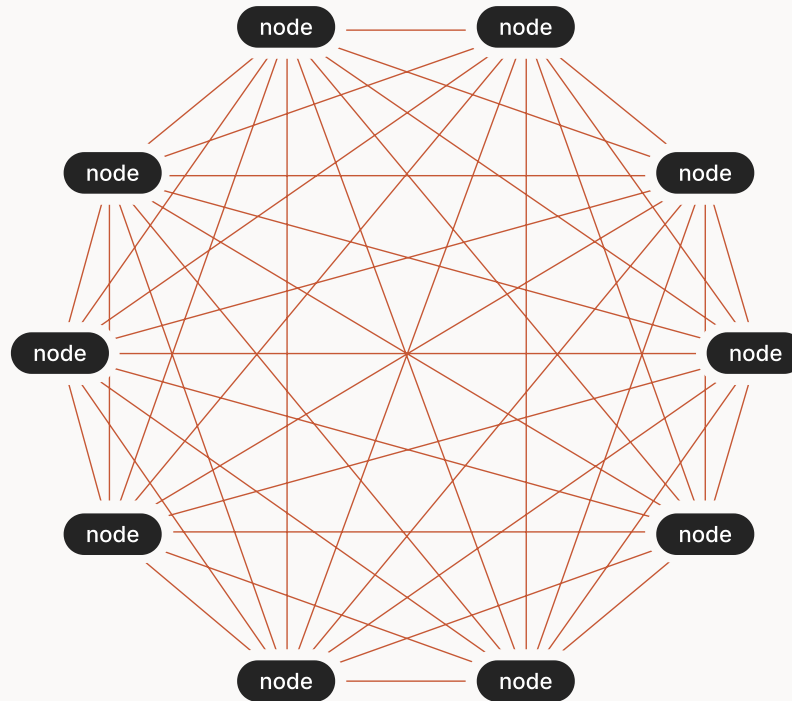
[Order now >](#)

IPv4 addresses		1
IPv6 addresses		/64-subnet
Failover IPs		available
Custom VLAN		available
Minimum availability		99,6 %
Price per month		3.25€

WIREGUARD DATA PLANE

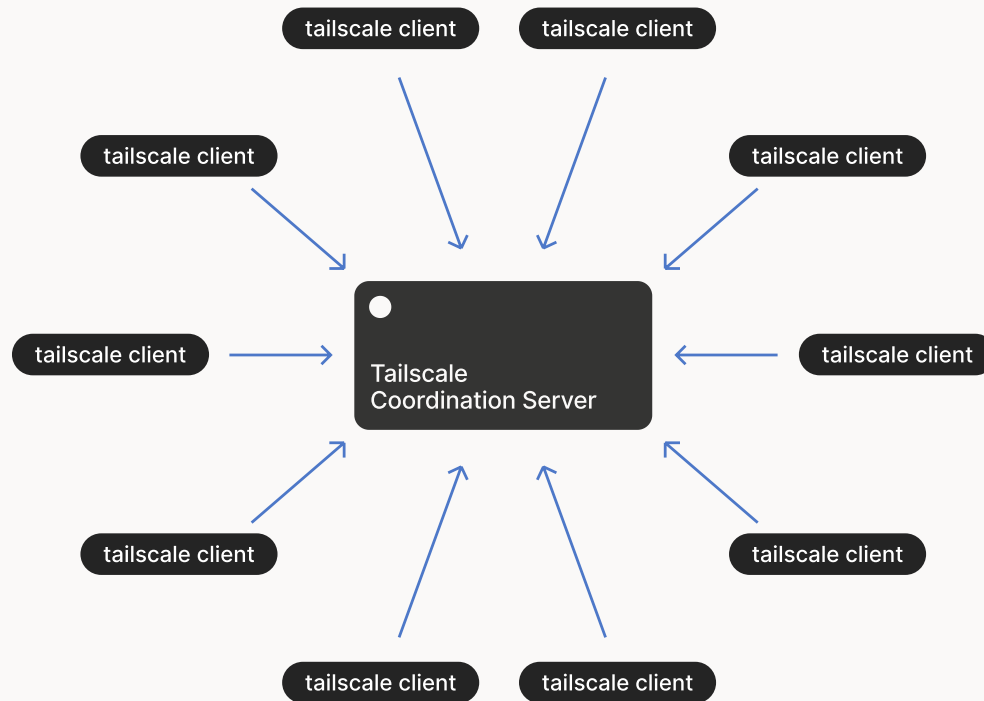


WIREGUARD DATA PLANE

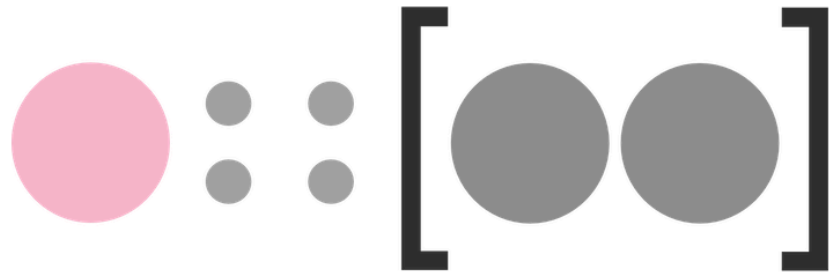


$n(n-1) = 90$ WireGuard endpoints (for 45 connections)

TAILSCALE CLIENTS

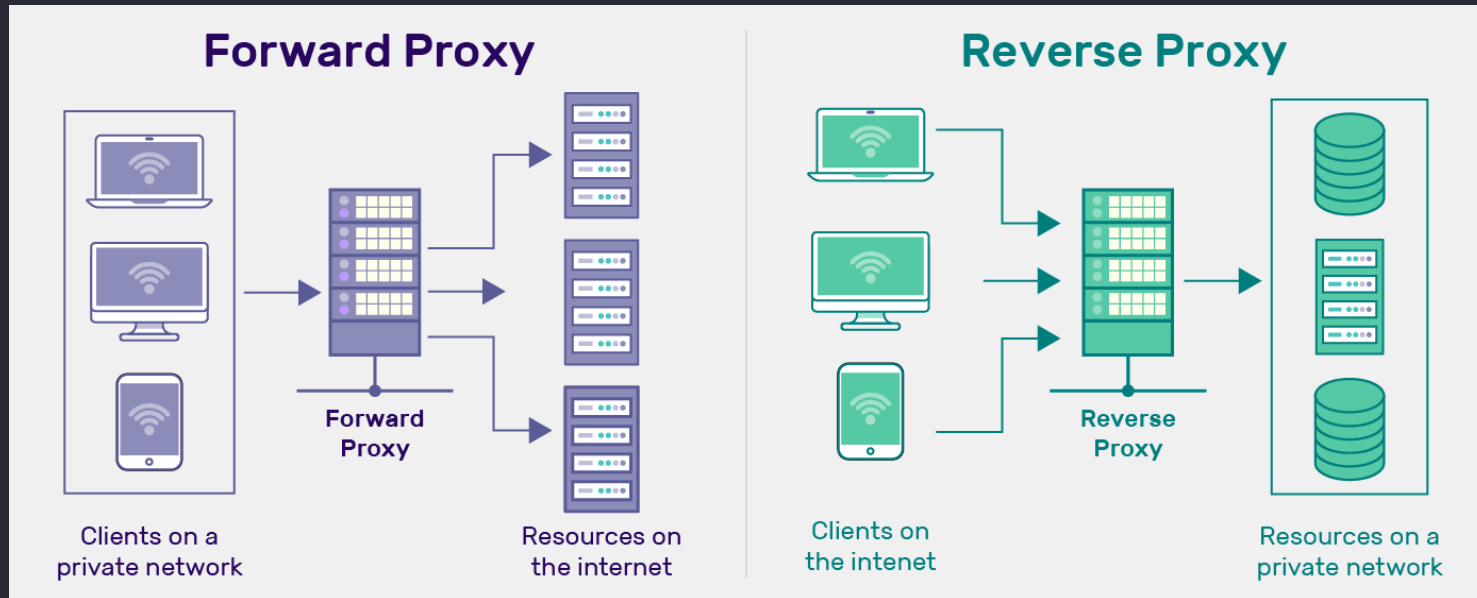


HEADSCALE COORDINATION SERVER



headscale

REVERSE PROXY



REVERSE PROXY OPTIONS

- Caddy
- Træfik
- Nginx
- Nginx Proxy Manager
- frp

MENTIONED RESOURCES

- [Blog post from Paritosh Bhatia](#)
- [WireGuard](#) - Fast, Modern, Secure VPN Tunnel
- [Tailscale Blog](#) - Blog post “How Tailscale works”
- [Tailscale Client](#) - Tailscale GitHub repository
- [Headscale](#) - Open source, self-hosted implementation of the Tailscale control server

ATTRIBUTIONS

- Network diagrams from Paritosh Bhatia - [Blog post](#)
- Port-forwarding diagram - [Blog post](#)
- Reverse proxy diagram - [Blog post](#)

THANKS!

curl -sL <https://matthias.thym.at/card>

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