# Basics of Wireguard
# CUCUG

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# Why use a VPN/Wireguard?

- You don't 100% trust the network
  - Coffee shop, hotel, or any WiFi that's not yours

- You don't 100% trust the network provider
  - Comcast, AT&T sniffing traffic and DNS queries

- You want to logically connect two physically separate networks

- You want a service provider to think you're somewhere else

# What is Wireguard?

- VPN software that's secure and simple

- Fast, flexible, and free

- Supported on most devices
  - MS Windows, MacOS, iOS, Android, Linux, BSD

- Supported by many Commercial VPN providers
  - NordVPN, Mullvad, ovpn.com, etc.

# Using Wireguard

- Hub and Spoke vs. Mesh
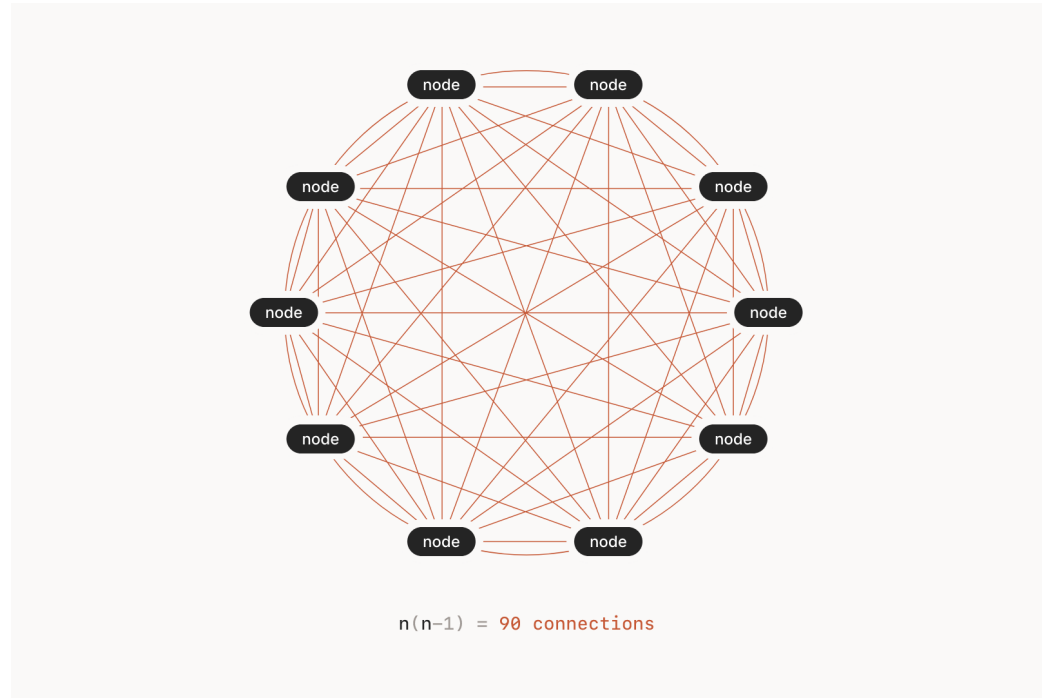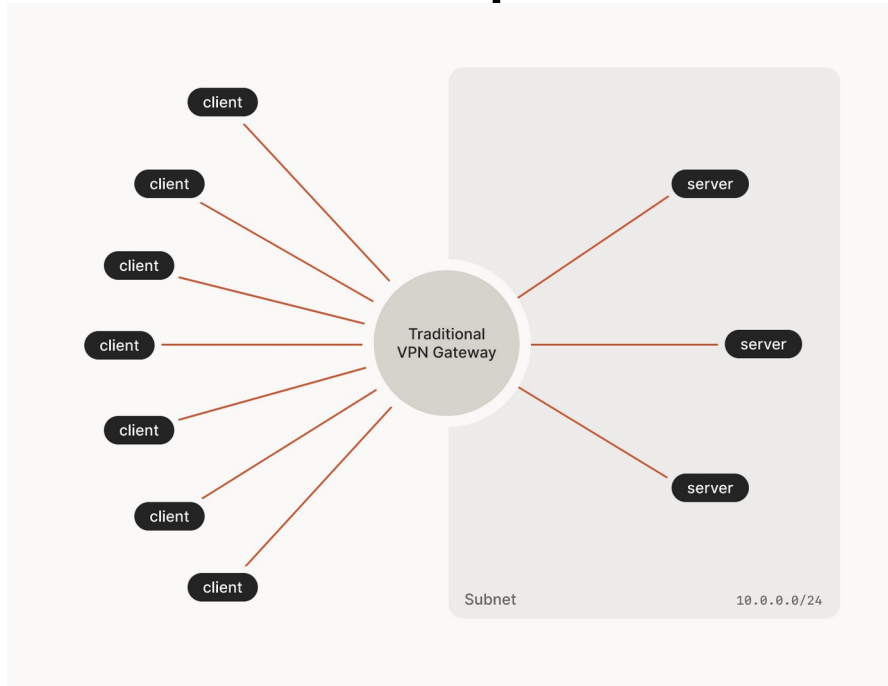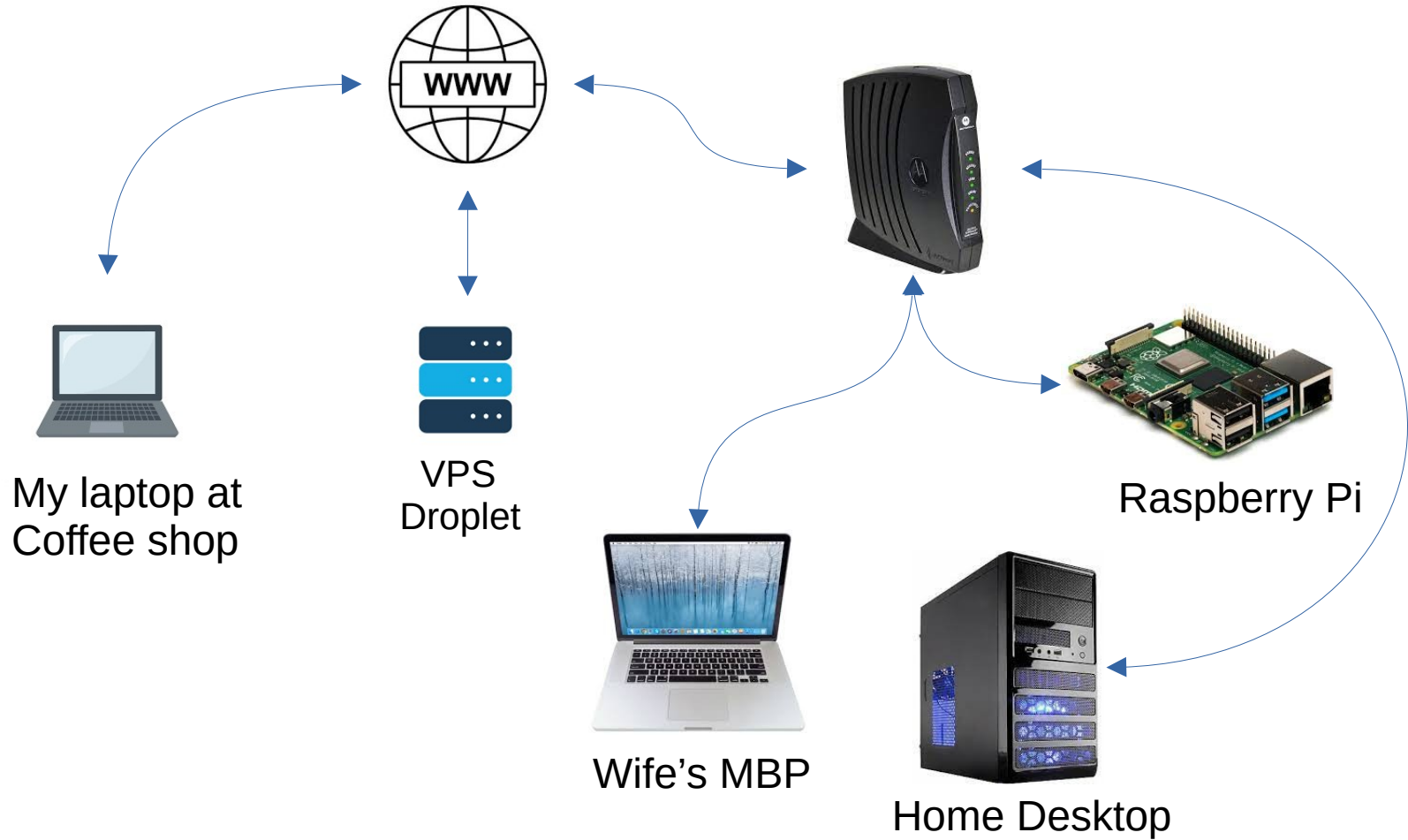


– Pictures from Tailscale
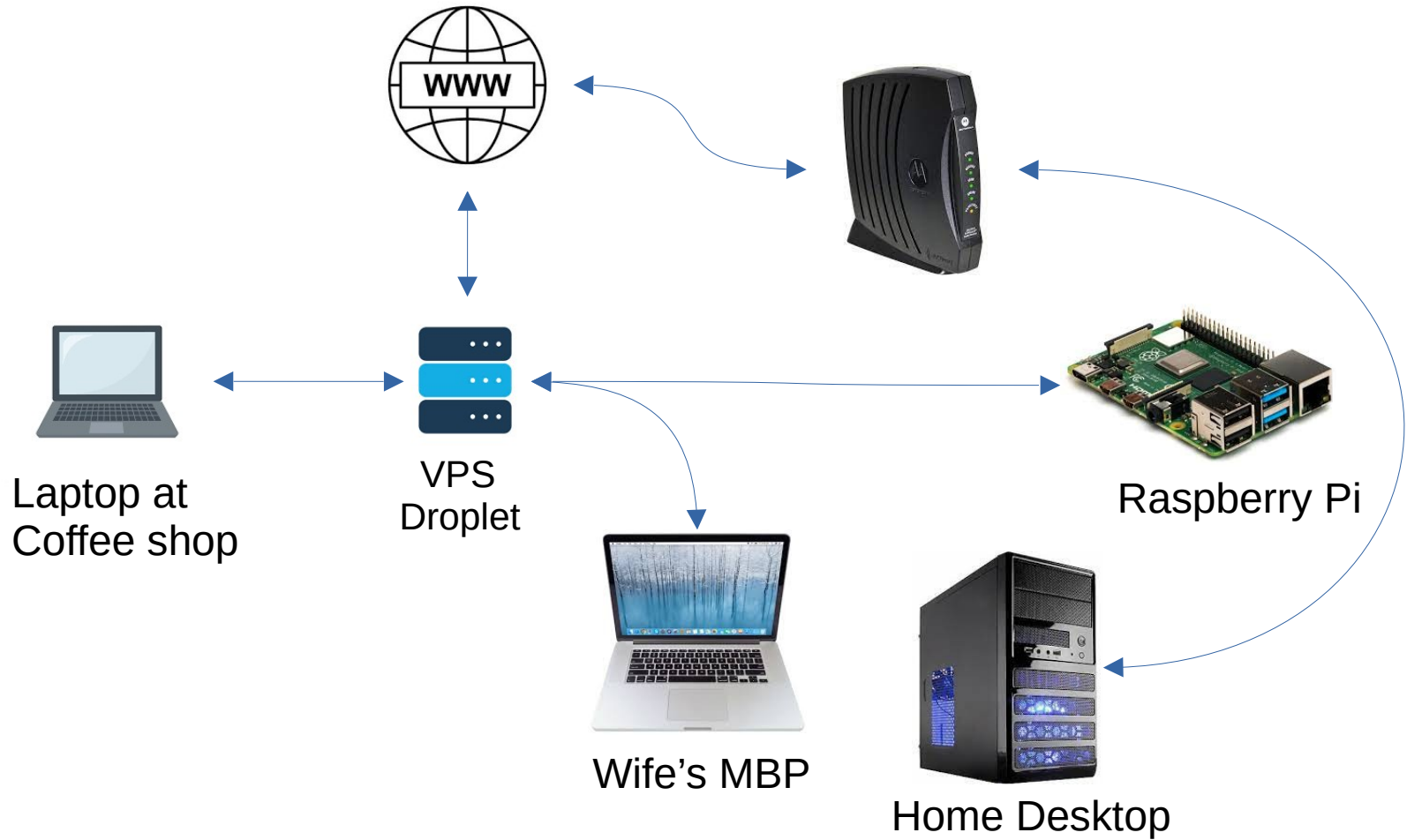
# Home Wireguard Use Case

# Physical Network Connections



My laptop at
Coffee shop

VPS
Droplet

Raspberry Pi

Wife's MBP

Home Desktop

# Logical Network Connections



Laptop at
Coffee shop

VPS
Droplet

Raspberry Pi

Wife's MBP

Home Desktop

# My Wireguard Uses

- For security with laptop when away from home

  - And still be on home network to access home machines

- Wife, geolocation, and MLB.TV

- Have VPS email server logically on my network

- Cable modem has no Internet visible ports open

  - No remote "attack vectors"

# Other People's Uses

- With friends and family:
  - Sharing home media servers
  - Off-site backups
  - Remote support
- Uses mesh to keep all computers' IP addresses unchanging at home or on the road (RV) without having to go through a hub

# Demo!

# Demo

- Brand new VPS droplet
  - Configure with 0-pkginst and 1-prep
  - Use qrencode to display peer wireguard configuration

- On device with camera
  - Install Wireguard app and launch it
  - Tap '+', use QR code, add any name (e.g. "cucug")
  - Enable "cucug" with its button
  - Test with whatismyipaddress.com to show droplet's IP and that it thinks you're now in New York

# Additional Reading

- https://www.wireguard.com/

- https://tailscale.com/