



# ZeroTier

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The zero trust SD-WAN

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# What is it?

- Free & Open Source
- A network connection that combines the capabilities of a VPN<sup>1</sup> and SD-WAN<sup>2</sup>.
- Devices are connected to each other over the ZeroTier network (P2P<sup>3</sup> mesh). Decentralized, zero trust networking, NAT traversal.
- Uses Asymmetric public key encryption: Curve25519/Ed25519 (256-bit elliptic curve)
- White Paper: <https://docs.zerotier.com/zerotier/manual>
- Available on the following platforms:



Windows



MacOS



Android



iOS



Linux



FreeBSD

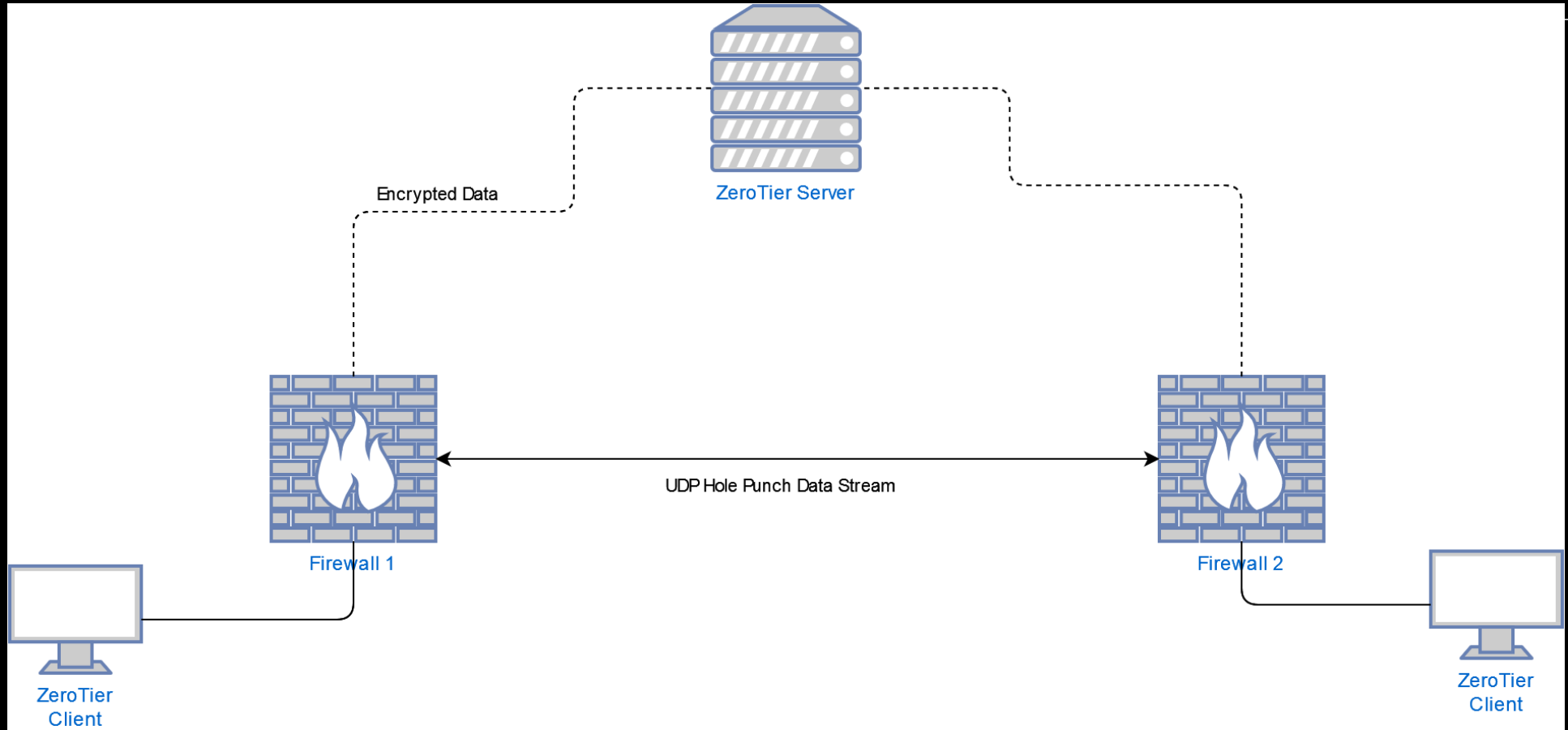


NAS

1. Virtual Private Network  
2. Software Defined-Wide Area Network  
3. Peer-to-Peer



# How does it work? Pt 1



# How does it work? Pt 2



- ZeroTier is installed on each client
- Each client sends data up to the ZeroTier servers.
- ZeroTier then attempts to do a NAT<sup>1</sup> Traversal behind each firewall.
- Once each device is located a UDP<sup>2</sup> Hole Punch Data Stream keeps the connection alive behind each firewall and data is no longer sent to the ZeroTier server until connection needs to be re-established.

**Note:** You can host your own ZeroTier server and you do not have to use their cloud offerings. The code is open source <https://github.com/zerotier>



# Common Applications

- Connecting ATA devices together without a central server such as TAK, FTS, TAKY, etc.
- Private Gaming LAN
- Route to a remote subnet
- Access devices or services on a home network without configuring firewall rules or port forwarding.
  - Using Pi-Hole or PFSense NGBlocker you can configure ZeroTier to use your local DNS server when routing back to your home network. This will block all ads/trackers on your mobile device.

# Pros

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- No firewall configuration (*usually*<sup>1</sup>)
- Fast and simple to setup
- Can be self hosted
- End-To-End Encryption
- Available across multiple different devices and operating systems
- It just works
- No networking skills required

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1. Some firewalls block the port ZeroTier uses to connect through.