

# Tunnel Configuration BOF

## Tunnel Setup Protocol (TSP)

draft-blanchet-v6ops-tunnelbroker-tsp-01.txt

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# Protocol Overview

- Tunnel Broker model (RFC3053)
  - Tunnel broker can manage one or multiple tunnel servers
- Signaling protocol to setup tunnel parameters
  - Uses XML (easily extensible)
    - Similar to NETCONF
    - Enables negotiation of other types of tunnels
  - IP address and prefix assignment
  - Tunnel encapsulation
    - IPv6-over-IPv4 (RFC2893), IPv4-over-IPv6(RFC2473), IPv6 over UDP
    - IPv6-over-IPv4 is most efficient encapsulation type (no overhead). Also widely implemented, including embedded devices.

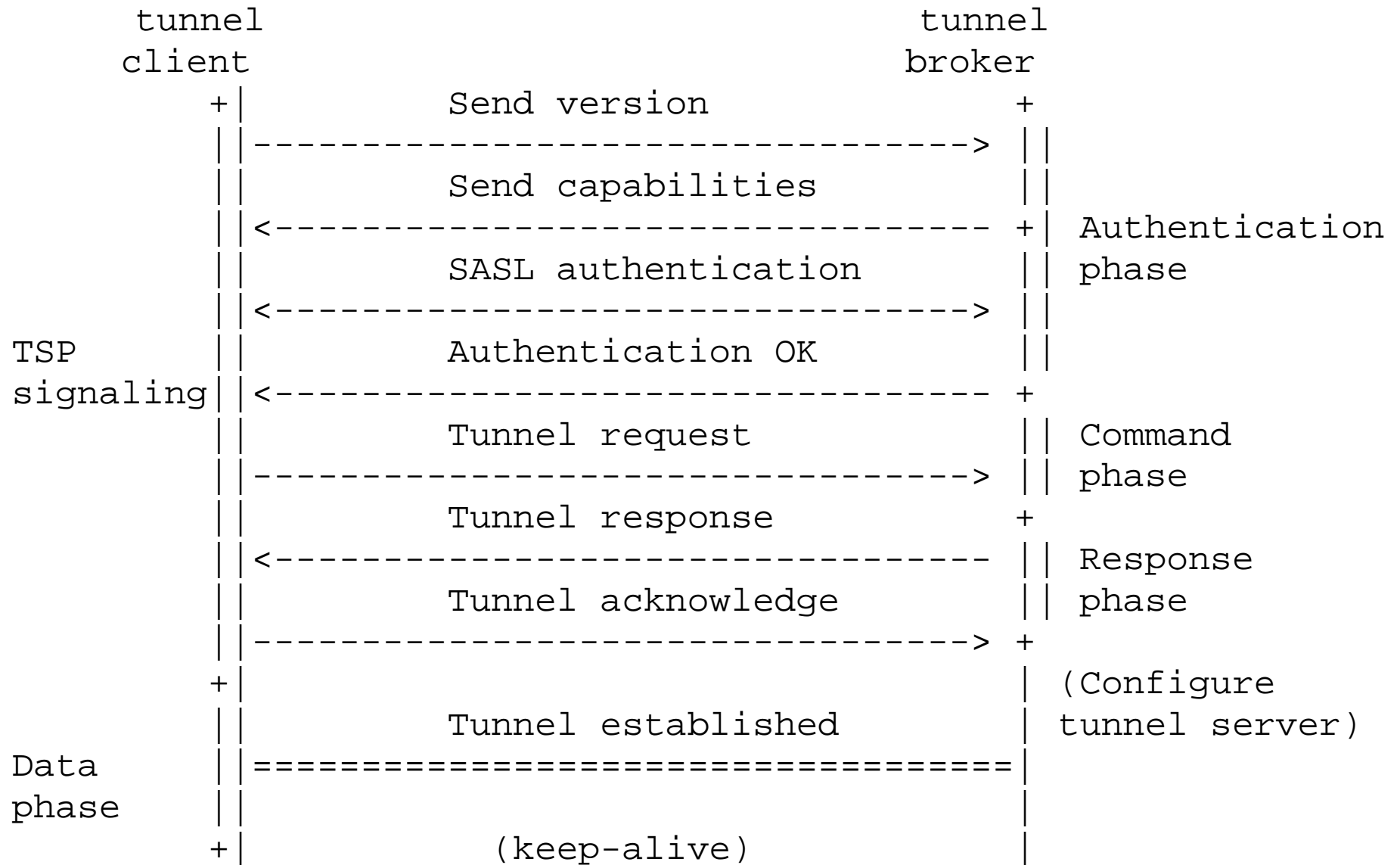
# Protocol Overview

- Authentication of users
  - SASL (RFC2222).
  - Supports “anonymous mode”.
  - Not tied to a specific authentication mechanism
- NAT discovery/traversal
  - Tunnel broker offers optimal encapsulation when no-NAT is present
  - Similar to MIP4 NAT traversal (RFC3519)
- Keepalive
  - ICMPv6 echo/reply. Optional.

# Protocol Operation

- Authentication phase
  - Connect to server, authenticate (or use anonymous mode)
- Command phase
  - Request tunnel, receive parameters, ACK and establish tunnel
- Data phase
  - Tunnel is established. Send keepalive (optional)

# Protocol Description



# Implementation

- Implemented on diverse client platforms
- Tunnel Broker using TSP available for public use for the past 5+ years
  - [www.freenet6.net](http://www.freenet6.net)
- Tunnel Brokers using TSP is deployed in commercial networks
- Home gateway manufacturers have already implemented TSP