MASQUE & Multipath

QUIC Multipath Interim – Virtual – 2020-10

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A Quick Overview of MASQUE

HTTP/3 is a great protocol for proxying

HTTP CONNECT only supports TCP

MASQUE is an IETF Working Group which focuses on
adding new types of proxying to HTTP/3

Multipath and discovery of MASQUE proxies are out of scope for MASQUE

But MASQUE could benefit from multipath

MASQUE New Proxying Modes

CONNECT-UDP – draft-ietf-masque-connect-udp

    Uses DATAGRAM frames over HTTP/3 (avoids UDP retransmissions)

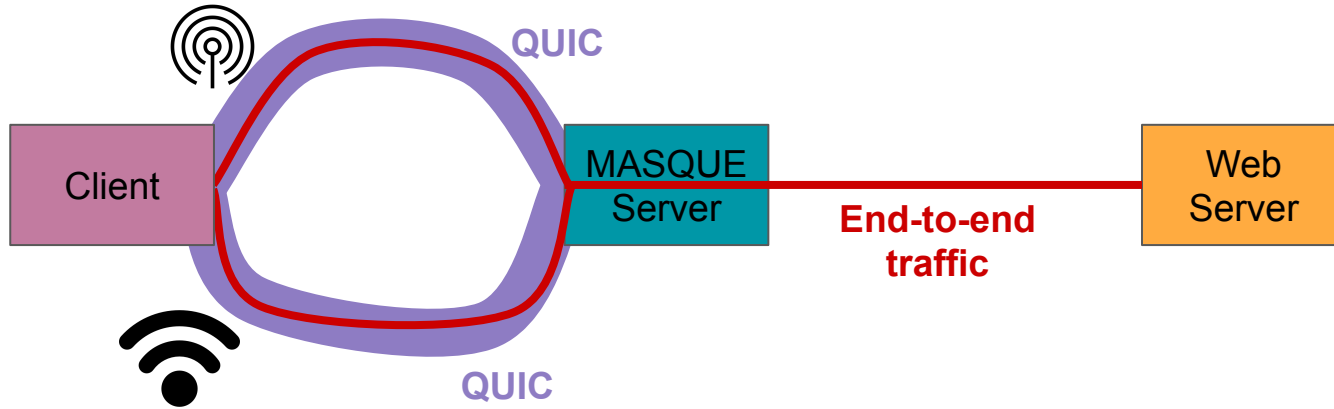CONNECT-IP – requirements: draft-ietf-masque-ip-proxy-reqs

    Requirements for a protocol to allow VPN over HTTP/3

QUIC-aware CONNECT-UDP – not yet adopted: draft-pauly-masque-quic-proxy

    CONNECT-UDP extension that allows avoiding double-encryption
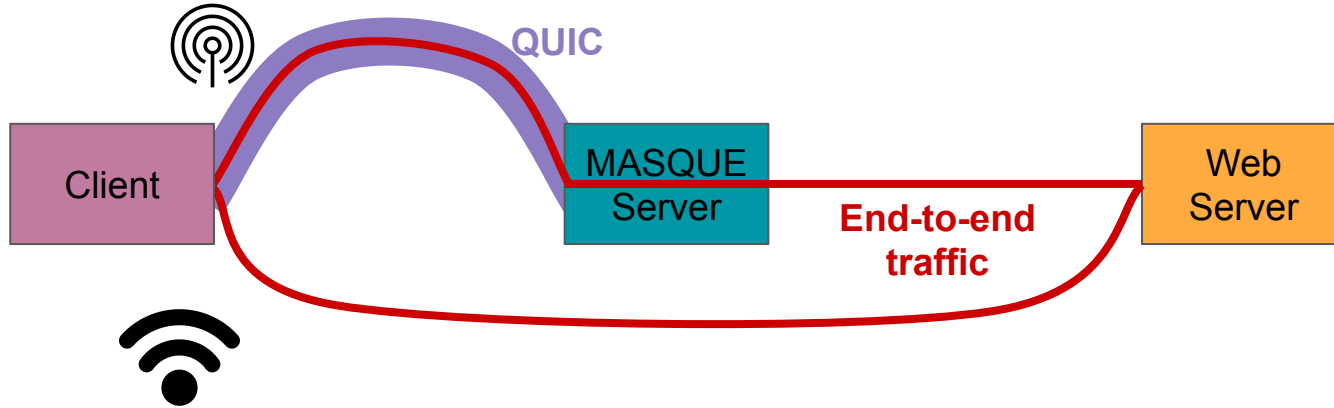
Multipath to the MASQUE HTTP/3 Proxy

This use-case is not specific to MASQUE

End-to-end traffic could be HTTP/2 over TLS via HTTP CONNECT

Most solutions for CONNECT should also work for other proxying modes

End-to-end Multipath with a MASQUE HTTP/3 Proxy

MASQUE proxy only deals in end-to-end encrypted packets

MASQUE proxy doesn't need to know that multipath is happening

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