CONNECT-UDP as it stands..

Exclusively allows using a single 5-tuple

(Connected sockets only)
Example use-case: WebRTC

Alice

Bob

STUN Server
Example use-case: WebRTC
Example use-case: WebRTC with a Proxy
Example use-case: WebRTC with a Proxy
Why not just use multiple CONNECT-UDP connections?
AN ICE BREAKER

Alice

CONNECT-UDP

Proxy

CONNECT-UDP

STUN Server

Proxy

Who am I?

Peer-to-peer

Bob

P2P NOT GUARANTEED TO BE SERVICED BY THE SAME IP DUE TO HTTP SEMANTICS
CONNECT-UDP - with Listener support!

Now with $\infty$ more 5-tuples! With just one CONNECT-UDP connection!
How does it work?

HEADERS

:method = CONNECT
:protocol = connect-udp
:scheme = https
:path = /masque/udp/*/ */
:authority = proxy.org
capsule-protocol = ?1
connect-udp-listen = 42

Context ID registered by header – payload then contains IP & port

DATAGRAM QUIC Frame {
  Type (i) = 0x30..0x31,
  [Length (i)],
  Quarter Stream ID (i),
  Context ID (i) = 42,
  IP Version (8),
  IP Address (32..128),
  UDP Port (16),
  UDP Payload (..),
}
More about the IP fields

IP Version (8),
IP Address (32..128),
UDP Port (16),

These Fields reflect:

client -> proxy
Target IP/Port PER PAYLOAD

proxy -> client
Source IP/Port PER PAYLOAD

Shall we validate source packets?
Are we interested in adoption?

Extra security considerations may be necessary

WebRTC/TURN expertise would be very helpful!
MASQUE CONNECT-UDP Listener

draft-schinazi-connect-udp-listen

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David Schinazi – dschinazi.ietf@gmail.com
Abhi Singh - abhisininghietf@gmail.com