RTCWEB Considerations for NATs, Firewalls and HTTP proxies

draft-hutton-rtcweb-nat-firewall-considerations

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Requirements.

- draft-ietf-rtcweb-use-cases-and-requirements

  – F18 The browser must be able to send streams and data to a peer in the presence of NATs and Firewalls that block UDP traffic.
    - ✓ draft-ietf-rtcweb-transports: In order to deal with firewalls that block all UDP traffic, TURN using TCP between the client and the server MUST be supported, and TURN using TLS between the client and the server MUST be supported.
    - ✓ draft-ietf-rtcweb-transports: ICE-TCP candidates MAY be supported; this may allow applications to communicate to peers with public IP addresses across UDP-blocking firewalls without using a TURN server.

  – F21 The browser must be able to send streams and data to a peer in the presence of Firewalls that only allows traffic via a HTTP Proxy, when Firewall policy allows WebRTC traffic.
    - • draft-ietf-rtcweb-transports: Further discussion of the interaction of RTCWEB with firewalls is contained in [I-D.hutton-rtcweb-nat-firewall-considerations]. This document makes no requirements on interacting with HTTP proxies or HTTP proxy configuration methods.

  – Not stated as a requirement but I assume we want to avoid TCP for media if at all possible.

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- Informational draft

- Describes various scenarios involving restricted firewalls and proxies.

  - No Proxy but firewall restrictions on UDP and port usage.

  - Proxy exists and in worst case has to be traversed for media to flow.

- Describes various potential solutions (Short Term, Long Term, >1).

  - HTTP Connect , TURN over Websockets, ALPN.

  - HTTP Fallback, PCP, Network Specific TURN Server.

- Intended to analyse pros and cons.

  - Not much of this in current draft.

- Identifies some browser requirements.

Controversial

- What is?

  - Forcing middleboxes to handle real-time media when they are not expecting it?

  - Bypassing firewall policy?

  - We can avoid these by specifying WebRTC browser behaviour.

- IETF/RTCWEB should facilitate the Tussle.

  - The IETF/W3C/RTCWEB created the problem.

  - Solutions may/will/should be developed outside of RTCWeb.

  - However RTCWEB is chartered to:

    - Define the solution - protocols and API requirements – for firewall and NAT traversal.

  - Therefore needs to have the discussion and document the options for WebRTC media handling in the presence of proxies and firewalls.

Proposed Way Forward.

- Adopt draft-hutton-rtcweb-nat-firewall-considerations as informational.

- Facilitate and document WG discussion regarding pros and cons of various options.

- If we get consensus on browser requirements document the consensus in draft-ietf-rtcweb-transports.