HTTPBis – IETF90

HTTP Connect – Tunnel Protocol For WebRTC

draft-hutton-httpbis-connect-protocol-00

A. Hutton, J. Uberti, M. Thomson

RTCWEB Requirements.

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

  – 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. NOTE IN DRAFT: This may be added.

draft-hutton-httpbis-connect-protocol-00 - Background

- RTCWEB Interim meeting – May 2014

  – Discussed the issue of WebRTC browsers using HTTP Connect for TURN and ICE-TCP traffic and how to document this in draft-ietf-rtcweb-transports.

  – Consensus was to ensure that the HTTP traffic is marked appropriately to allow the proxy to know that WebRTC traffic is being sent over it, allowing it to drop/log said traffic if desired. – Hence this draft.

draft-hutton-httpbis-connect-protocol-00 - Background

- **draft-ietf-tls-applayerprotoneg.**

  – This document describes a Transport Layer Security (TLS) extension for application layer protocol negotiation within the TLS handshake

- **draft-thomson-rtcweb-alpn-00 (Hopefully adopted by now).**

  – Web Real-Time Communications (WebRTC) uses Datagram Transport Layer Security (DTLS) to secure all peer-to-peer communications. Identifying WebRTC protocol usage with Application Layer Protocol Negotiation (ALPN) enables an endpoint to positively identify WebRTC uses and distinguish them from other DTLS uses.

- **draft-hutton-httpbis-connect-protocol-00**

  – Provides HTTP Proxies with an indication that WebRTC related real-time media is to be included in the tunnel this specification defines the Tunnel-Protocol Request header field and associated labels for use within a HTTP Connect request.

  – This allows the proxy to identify the protocol being used in the tunnel as early as possible therefore enabling the proxy to make informed policy decisions.

draft-hutton-httpbis-connect-protocol-00 Overview

- Tunnel-Protocol HTTP Request Header Field

  - The client MAY include the Tunnel-Protocol Request Header field in a HTTP Connect request to indicate the application layer protocol within the tunnel.

- Header Field Values

  - Valid values for the protocol field are taken from the registry established in [I-D.ietf-tls-applayerprotoneg]. For the purposes of WebRTC, the values "webrtc" [I-D.thomson-rtcweb-alpn] and "turn" [I-D.patil-tram-alpn] are applicable.

- The name 'Tunnel-Protocol' is open to debate. Alternatives include "Tunneled-Application".

- We need to determine which ALPN tags are valid. For instance,"turn" might not be appropriate (it's not strictly an application).

- Example:

  CONNECT 198.51.100.0:8999 HTTP/1.1
  Host: 198.51.100.0:8999
  Tunnel-Protocol: webrtc

Adopt & Bash

Bash & Adopt

Something else.