WHEP: WebRTC-HTTP egress protocol

- Egress is out of scope of WISH WG
- WHEP reuses all the mechanisms that have been put in place for WHIP; draft is basically /WHIP/WHEP/g
- Why WHEP?
  - Interoperability between WebRTC services and products.
  - Reusing player software which can be integrated easily.
  - Integration with Dynamic Adaptive Streaming over HTTP (DASH) for offering live streams via WebRTC while offering a time-shifted version via DASH.
  - Playing WebRTC streams on devices that don't support custom javascript to be run (like TVs).
- WHIP and WHEP can be used together for service interoperability
- Should we recharter the WISH WG to include egress?
  - Presented at DISPATCH: Up to the WISH WG to decide if the WG should be rechartered to add egress in the scope.
WHEP Protocol Operation

- Sounds familiar?

Figure 1: WHEP session setup and teardown
WHEP Protocol Operation (WHEP Client as answerer)

- WHEP Player may wish the service to provide the SDP offer
  - avoid setting up an audio and video session when only audio is supported
  - some webrtc implementations don’t support createOffer (WTF)
  - Allows WHIP to WHEP interoperability

- Pros:
  - Issue with turn server config solved

- Cons:
  - Media server may not now the actual codecs when the WHIP player connects

- Should we adopt it in WHIP too?
What’s missing?

- WHEP has more requirements in terms of functionality than WHIP
- Need to define extensions to match DASH functionality
  - Multilanguage support
  - Remote pause/mute
  - Subtitles/Live captions
  - Metadata
  - Client side resolution/quality selection
  - Events?
WHIP/WHEP interoperability

HTTP POST

201 CREATED (SDP OFFER)

HTTP POST (SDP OFFER)

201 CREATED (SDP ANSWER)

HTTP PATCH (SDP ANSWER)

200 OK

POST (empty, long poll)

201 SDP Offer

PATCH (SDP Answer)

201 SDP Answer

200 OK
Next steps

- Define and add protocol extensions for missing metadata
- Recharter WISH WG and adopt WHEP as WG item.