draft-murillo-whep-02

https://datatracker.ietf.org/doc/html/draft-murillo-whep-01

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Changes from murillo-whep-01 to murillo-whep-01

- Backport editorial changes from WHIP draft
- Removed server sent offers
- Added server sent events
- Added video layer selection

Server Sent events extension: signaling and setup

- Signaled support in a Link header of the 201 created
  Link: <https://whep.ietf.org/resource/213786HF/sse>;
  rel="urn:ietf:params:whep:ext:core:server-sent-events"
  events="active,inactive,layers,viewercount"
- Server can signal which events it actually support, current defined ones are:
  - active: indicating that there is an active publication ongoing for this resource.
  - inactive: indicating that there is no active publication ongoing for this resource.
  - layers: provides information about the video layers being published for this resource.
  - viewercount: provides the number of viewers currently connected to this resource.
- Creation of the server-to-client communication creation/deletion via HTTP POST/DELETE to the extension URL
  - Client can specify the events it is willing to receive.

Server Sent events extension: delivering events

- WHATWG server sent events protocol
  https://html.spec.whatwg.org/multipage/server-sent-events.html#server-sent-events
  - HTTP long pull + http chunck based
  - Simple text based payloads (JSON formatted)

```
event: viewercount
data: {"viewercount":3}
```

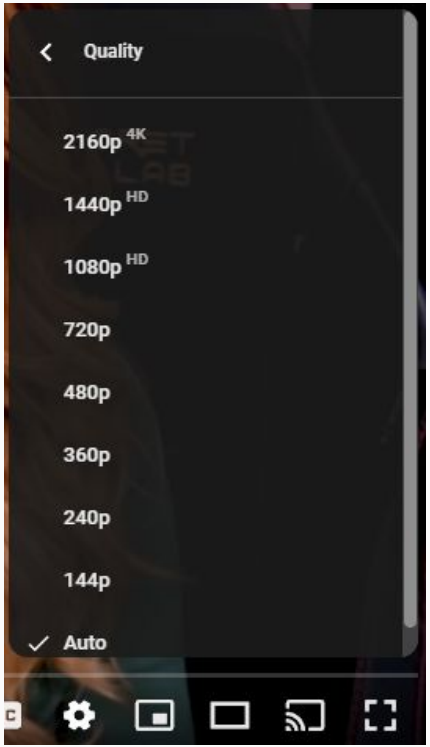
  - Natively supported on browsers with EventSource

```
var source = new EventSource('updates.cgi');
source.addEventListener('add', addHandler, false);
source.addEventListener('remove', removeHandler, false);
```

  - Supported by Dolby Millicast Streaming platform (public demo and video-js plugin available soon)

Video layer selection extension

- Signaled support in a Link header of the 201 created
  Link: <https://whep.ietf.org/resource/213786HF/layer>;
  rel="urn:ietf:params:whep:ext:core:layer"
- Available layer info (simulcast/SVC) sent by the server via Server Sent Events
- Client can choose an individual layer or let the server choose the best available one based on BWE.



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?~~

Next steps

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