WISH@IETF111

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- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/(Privacy Policy)

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Friday July 30th, Session I
Chairs: Nils Ohlmeier, Sean Turner

Agenda

Administrivia (10 mn)

- Virtual Meeting Tips
- Note Well
- Virtual Bluesheet (automatic)
- Note Taker
- Jabber Scribe
- Status (just chartered)

draft-murillo-whip-02 (45 mn)

- Sergio M.

Discussion (5 mn)

whip-02

Changes from draft-00 to draft-02

draft-01

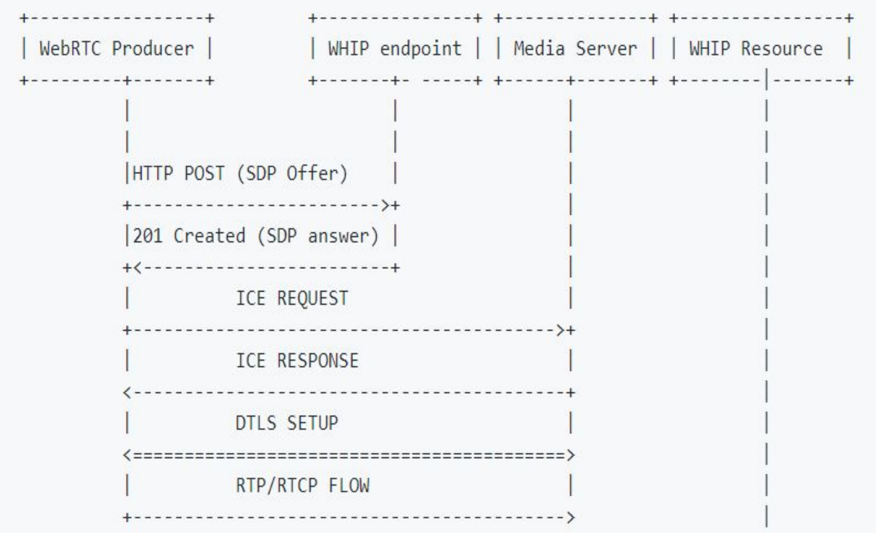
- Added support for client side trickle ICE and ICE restart
- Add HTTP DELETE for explicitly terminate a session

draft-02

- Add references for simulcast negotiation
- Add clarification for endpoint and resource url
- Make immediate revocation of consent normative
- Add protocol extensibility section
- Add turn/stun server configuration
- Send 405 responses on unused methods

WHIP session setup

- The HTTP POST for doing SDP O/A to the WHIP endpoint URL.
- WHIP resource URL returned on the Location header of the response.
- ICE consent freshness will be used to detect abrupt disconnection and DTLS teardown for session termination by either side.



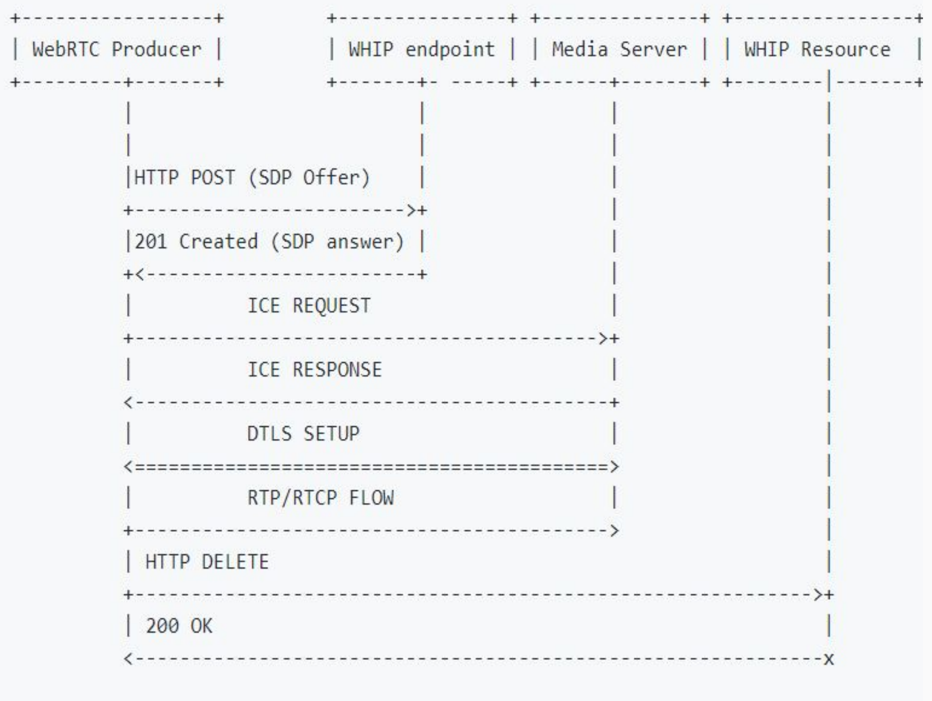
```
+-----------------+         +---------------+ +--------------+ +----------------+
| WebRTC Producer |         | WHIP endpoint | | Media Server | | WHIP Resource  |
+---------+-------+         +-------+- -----+ +------+-------+ +--------|-------+
          |                         |                |                  |
          |                         |                |                  |
          |HTTP POST (SDP Offer)    |                |                  |
          +------------------------>+                |                  |
          |201 Created (SDP answer) |                |                  |
          +<------------------------+                |                  |
          |          ICE REQUEST                     |                  |
          +----------------------------------------->+                  |
          |          ICE RESPONSE                    |                  |
          <------------------------------------------+                  |
          |          DTLS SETUP                      |                  |
          <==========================================>                  |
          |          RTP/RTCP FLOW                   |                  |
          +------------------------------------------>                  |
```

Trickle ICE and ICE restart

- The media server MAY use ICE lite, while the WHIP client MUST implement full ICE.
- Added support for client side initiated Trickle ICE and ICE restart by sending a HTTP PATCH request to the WHIP resource URL with a body containing a SDP fragment with mime type "application/trickle-ice-sdpfrag"
- As bundle is required, it is only required to send candidates for one m-line.
- A WHIP resource MAY not support either trickle ICE (i.e. ICE lite media servers) or ICE restart, and it MUST return a 405 Method Not Allowed for any HTTP PATCH request in that case.
- A WHIP client receiving a 405 response for an HTTP PATCH request SHALL not send further request for ICE trickle or restart.
- If the WHIP client gathers additional candidates (via STUN/TURN) after the SDP offer is sent, it MUST send STUN request to the ICE candidates received from the media server regardless if the HTTP PATCH is supported by either the WHIP client or the WHIP resource.

Session termination

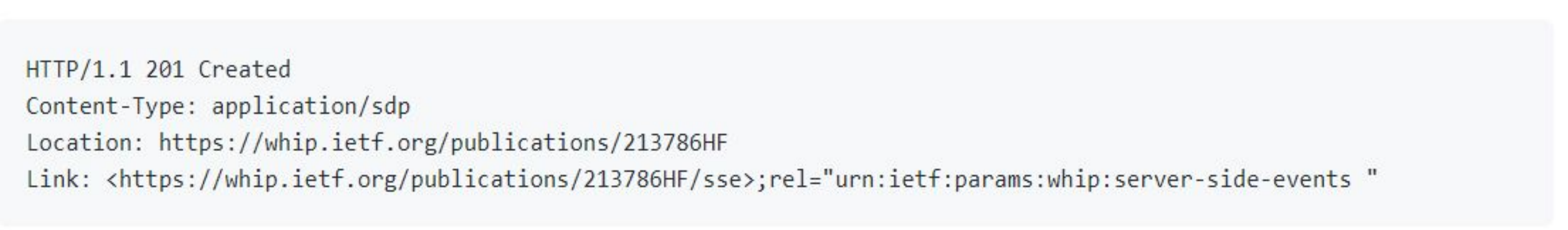
- To explicitly terminate the session, the WHIP client MUST perform an HTTP DELETE request to the resource url returned on the Location header of the initial HTTP POST.
- Upon receiving the HTTP DELETE request, the WHIP resource will be removed and the resources freed on the media server, terminating the ICE and DTLS sessions.
- A media server terminating a session MUST follow the procedures in RFC7675 section 5.2 for immediate revocation of consent.



```
+-----------------+         +---------------+ +--------------+ +----------------+
| WebRTC Producer |         | WHIP endpoint | | Media Server | | WHIP Resource  |
+---------+-------+         +-------+- -----+ +-------+------+ +--------|-------+
          |                         |                 |                 |
          |                         |                 |                 |
          |HTTP POST (SDP Offer)    |                 |                 |
          +------------------------>+                 |                 |
          |201 Created (SDP answer) |                 |                 |
          +<------------------------+                 |                 |
          |          ICE REQUEST                      |                 |
          +------------------------------------------>+                 |
          |          ICE RESPONSE                     |                 |
          <-------------------------------------------+                 |
          |          DTLS SETUP                       |                 |
          <==========================================>|                 |
          |          RTP/RTCP FLOW                    |                 |
          +------------------------------------------->                 |
          | HTTP DELETE                                                 |
          +------------------------------------------------------------>+
          | 200 OK                                                      |
          <-------------------------------------------------------------x
```

Protocol extensions

- Protocol extensions supported by the WHIP server MUST be advertised to the WHIP client on the 201 created response to initial HTTP POST request to the WHIP endpoint by inserting one Link header for each extension with the extension "rel" type attribute and the uri for the HTTP resource that will be available for receiving request related to that extension.
- Protocol extensions are optional for both WHIP clients and servers. WHIP clients MUST ignore any Link attribute with an unknown "rel" attribute value and WHIP servers MUST not require the usage of any of the extensions.
- Each protocol extension MUST register an unique "rel" attribute values at IANA starting with the prefix: "urn:ietf:params:whip:".



```
HTTP/1.1 201 Created
Content-Type: application/sdp
Location: https://whip.ietf.org/publications/213786HF
Link: <https://whip.ietf.org/publications/213786HF/sse>;rel="urn:ietf:params:whip:server-side-events "
```

TURN/STUN configuration

Configuration of the TURN or STUN servers used by the WHIP client is out of the scope of this document.

- It is RECOMMENDED that broadcasting server provides an HTTP interface for provisioning the TURN/STUN servers url and short term credentials as in {{!I-D.draft-uberti-behave-turn-rest-00}}. Note that the authentication information or the url of this API are not related to the WHIP endpoint URLs or authentication.
- It could also be possible to configure the STUN/TURN server URLS and long term credentials provided by the either broadcasting service or an external TURN provider.

CORS handling

There are two main ways of CORS being permitted:

1. With flags to the fetch() method at the browser. ('cors' or 'no-cors')
2. By the server responding to a a CORS preflight request, which is an HTTP OPTIONS request involving headers exchange.

Method #1 is NOT available under WISH because WISH doesn't conform to 'simple requests' under CORS.
Method #1 would be available under WISH if WISH used or allowed 'plain/text' for the Content-Type header.
Method #2 does allow browser-based cross-origin WISH requests when properly implemented at the server,

WHIP servers SHOULD/MUST support HTTP OPTIONS preflight requests, but, should we add it explicitly to the draft?

Discussion