JSEP (draft-15)

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V2

Changes Since IETF 95

- Clarify text around codecs in re-offer [PR 269] (*)
- Require that answerer reject m= lines when no codecs in common [PR #247] (*)
- Enforce max-bundle on offer processing [PR 282](*)
- Rewrite LS handling text to indicate that edge cases will not be automatically fixed [PR 263](*)
- addTrack algorithm [PR276]
- Fix TIAS formula to map kbits to bits [PR 286, 287]

Codecs in re-offer [PR #269]

- What do you offer in re-offers?
- Section 5.2.2 used to require you sent only what was in remote description
  - But say you are the answerer, offeror sent foo and bar, but you rejected foo
  - You could technically send both but that's silly
- New text says you must only send what was negotiated

Reject m= lines without codecs in common [PR #247]

- What do you do with an m= line with no codecs in common?
- Right answer: reject the m= line by setting port=0 but not the whole offer

Enforce max-bundle on offer processing [PR #282]

- If you have the max-bundle policy but are sent unbundled media, what do you do?
- Resolution: reject all but the first m= section
- Rationale: symmetry with the reversed offer/answer position

Rewrite LS handling text to indicate edge cases and that we're living with them [PR #276 & #263] (still have isuue #288 later)

Match LS groups in the offer with local RtpTransceivers identified by mid

If more than one RtpTransceivers, add “LS” group to indicate used RtpTransceiver

If we don’t have different RtpTransceivers, this indicates a difference of opinion between the offerer and answerer regarding lip sync status, and as such, the offered group MUST be ignored and no corresponding "LS" group generated.

Open Issues

addIceCandidate() and ICE restart [#250]

- We (sort-of) agreed in BA that ICE candidates were tied to ICE generation with ufrag/pwd, to prevent ambiguity
- But what about end-of-candidates?
- Proposal: end-of-candidates should have ufrag/pwd too
- Where does this go? ICE WG?

```
{
sdpMid: 'audio',
ufrag: 'abcd',
type: 'end'
}
```

Roll back ICE restart [#250]

- What if you offer ICE restart but that's rolled back?
- Upon setLocal(offer) with new ufrag/pwd
  - DO start gathering
  - DON'T change ICE connect state
- Upon set{Local,Remote}(answer) with new ufrag/pwd follow ICE 9.1.1.1
  - DO abandon all checks
  - DO keep sending on verified pairs
  - DO start new checks on new context
- Upon set{Local,Remote} rollback
  - Discard new ICE context

SDP o= line increment [#239]

RFC 3264 S. 8 “When issuing an offer that modifies the session, the "o=" line of the new SDP MUST be identical to that in the previous SDP, except that the version in the origin field MUST increment by one from the previous SDP. If the version in the origin line does not increment, the SDP MUST be identical to the SDP with that version number”

- What about trickle ICE candidates?
  - Do we change whenever localCandidate changes?
  - This seems kind of incoherent because these offers aren’t sent
  - And will result in gaps anyway
- Proposed resolution
  - V is the version in the o=line in last call to setLocal
  - o=V+1 on CreateOffer() if if anything changes

addTrack assignment [#288]

addTrack algorithm (S 4.1.2), and similar in webrtc-pc (S 5.1)

The track will be attached to the first compatible transceiver (of the same media type) which has never had a direction of "sendonly" or "sendrecv". [Otherwise, create a new one]

This text was designed to allow reuse of offered m= lines by an answerer. However, it will allow an existing a=recvonly m= line to be reused, which seems inadvisable; an a=recvonly m= line configured for screenshare should not automatically be reused for simulcast live video.

Suggestion: limit this reuse to offered m= lines

If the PeerConnection is in the have-remote-offer state, the track will be attached to the first compatible transceiver that was created by setRemoteDescription and does not have a local track. Otherwise, a new transceiver will be created.