

JSEP Update

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Updates and Open Issues

- Updates
 - Trickle ICE dependencies
 - ICE candidate gathering
 - ICE Restart
 - Description rollback
- Open Issues
 - Rehydration v3
 - PRANSWER, revisited*
 - Normative API specification*
- Covered elsewhere
 - Media stream taxonomy
 - m= line mapping

Trickle ICE

New draft, draft-ivov-mmusic-trickle-ice-01, imposes a few requirements on JSEP:

- Indication of end-of-candidates MUST be provided on a per-transport basis (compared to per-session today)
- a=mid MUST be used to support identification of m= lines
- "null address" of 0.0.0.1:9 (TBD) to be used when no candidates have been gathered yet

ICE Candidate Gathering

Trickle ICE work indicated there was confusion around when candidates are gathered; now specified explicitly in latest JSEP draft:

- **setLocalDescription** causes the browser to gather any needed candidates and issue the necessary candidate callbacks, based on number of m= lines and BUNDLE state in supplied description
- If candidates have been pre-allocated using the "candidate pool" technique, those candidates are stored internally, but supplied to the application as above.
IOW, the candidate callbacks occur immediately.
- **createOffer/createAnswer** never trigger candidate gathering, but include any candidates that have previously been supplied to the application.

ICE Restart

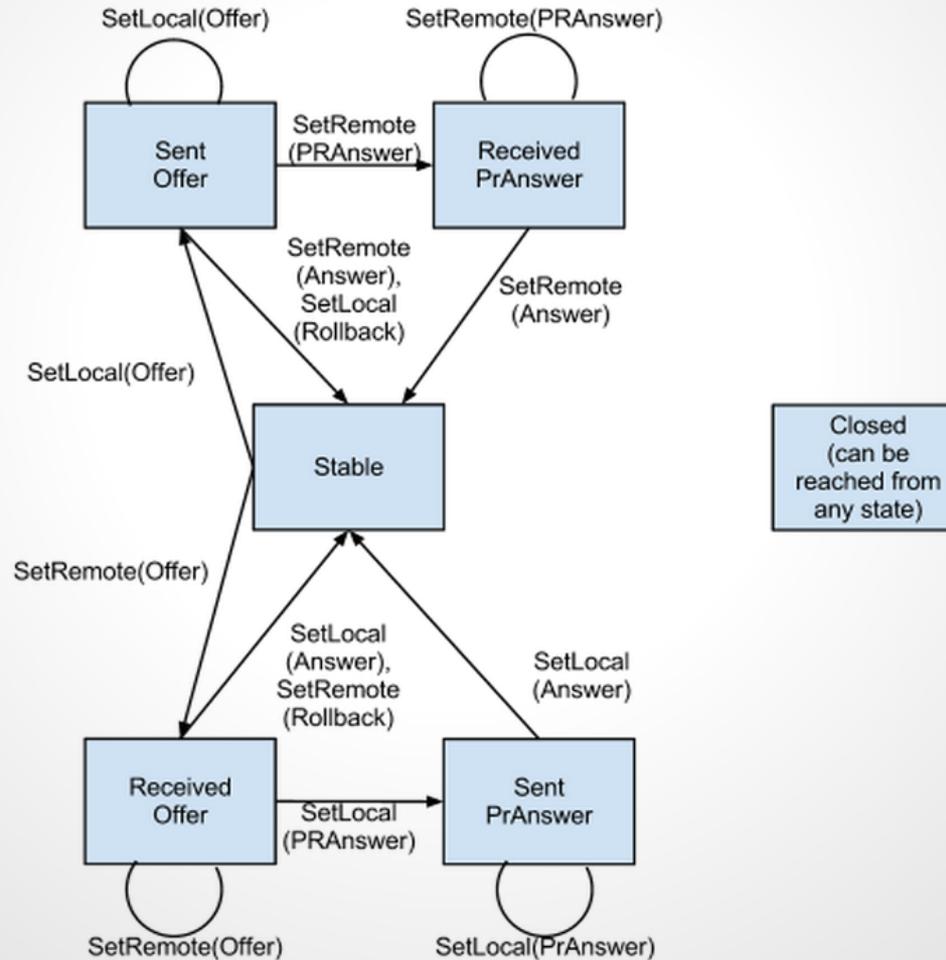
Work on implementing ICE Restart indicated gaps in the spec. Expected sequence (A talking to B):

- A: **createOffer(IceRestart)** triggers generation of an offer with a new ICE ufrag/pwd
- A: **setLocalDescription** with A's new ICE creds triggers gathering of new candidates
- B: **setRemoteDescription** with new ICE creds causes B: **createAnswer()** to generate an answer with a new ICE ufrag/pwd
- B: **setLocalDescription** with B's new ICE creds triggers gathering of new candidates
- A and B's ICE Agents now try to bring up a connection using the new candidates, and transition media to it, as specified in RFC 5245

Description Rollback

- Rollback involves a transition to the previous signaling state
- Use case: make offer, offer rejected
 - **Stable -> have-local-offer -> Rollback to Stable**
- Use case: receive updated offer, apply offer, decide it's no good, reject it
 - **Stable -> have-remote-offer -> Rollback to Stable**

Description Rollback



Rehydration v3

Problem statement: Maintain call with remote endpoint across a local page reload, with no special action needed from remote endpoint.

- Save MediaStream info from existing session, reload
- After reload, create new PeerConnection
- Attach same MediaStreams as before (using sourceId); **maintain the MSIDs**
- Use createOffer to create a new offer
- Remote side will process this as a re-INVITE (with ICE restart and key change, if needed) and answer it accordingly
- Call is re-established

Questions