DataChannels, take 2

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draft-jesup-rtcweb-data-protocol-04

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Changes since Atlanta/Interim

- Declarative open, no handshake (0 RTT)
  - No rejection – if you don't want a channel, ignore it or call channel.close() (not a change)
- In-band Open packet to define a bidirectional channel
  - Avoid glare by using an even/odd split
  - Sent reliably, though unreliable data can jump ahead
    - Buffer data that arrives on unused stream
    - Deliver buffered data when Open arrives
- Channels now use streams symmetrically
- Note: no list of DataChannels appears in SDP
External negotiation of channels

- Can specify “I've agreed/expect this channel (stream) to be used for a channel with these properties”. Allows for external negotiation, or pre-defined channels within an app.
  - Delivers any queued data already received
- If an Open arrives, notify an error occurred to higher levels
  - Let higher level deal with it.
- Marks channel as used
- Returns error if the channel is already in use
  - May mean we want to expose the stream values (see open issues)
Open issues

- Decider for even/odd – based on DTLS roles?
- Does stream value need to be exposed?
  - External negotiation implies Yes so it can query the current set of streams in use, if a mix of in-band and external is used. Otherwise not required
  - Also may imply ability to know if you're even or odd
- Details around handling of very large messages blocking other streams
  - Draft in tsv WG in progress, expect initial implementation and WG document by Berlin
- Should there be limits to how long/much we buffer waiting for an Open?
Questions/Discussion