

Data Channels

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Outline

- Changes of draft-ietf-rtcweb-data-channel-05
- Changes of draft-ietf-rtcweb-data-protocol-00
- Open Issues

Changes

draft-ietf-rtcweb-data-channel-05

- Integrated RTCWEB-specific considerations from draft-ietf-tsvwg-sctp-dtls-encaps
- Update references.

Changes

draft-ietf-rtcweb-data-protocol-00

- Improved grammar, fixed typos
- Added clarifications
- Stream usage based on DTLS client/server role
- Cleanup DATA_CHANNEL_OPEN message format
- Allow external negotiation of data channels
- Improved IANA section

Open Issue No 1: Initial PMTU

- Issue
 - Initial PMTU for IPv4
- Proposed Resolution
 - Use 1280 (like for IPv6)

Open Issue No 2: Data Channel Priority

- Issue
 - Priority of data channel unspecified
- Proposed Resolution
 - Use them as strict priorities between the data channels of a peer connection.
 - Covered by an SCTP stream scheduler

Open Issue No 3: Handling of Early Data

- Issue
 - How to handle data arriving before DATA_CHANNEL_OPEN. Buffer it for how long?
- Proposed Resolution
 - A time would need to be in the order of 10 seconds. A lot of messages can be transferred in this time. Therefore: Buffer message not based on time, but based on volume.
Suggested limit: at least 100 KB.

Open Issue No 4: Congestion Control

- Issue
 - Delay based CC required
 - Support of negotiation or sender side only behavior required
 - Possible coordination of CC between data channels and media streams
- Proposed resolution
 - Don't require the support of a delay based congestion control
 - Reconsider CC of data channels after RMCAT has provided a CC for media streams

Open Issue No 5:

Fragmentation and Reassembly

- Issue
 - PPID based fragmentation method only works for ordered reliable data channels
- Proposed Resolution
 - All implementation must support the PPID based method for ordered reliable data channels. For other data channels the message is limited to avoid head of line blocking
 - When SCTP level interleaving (draft-stewart-tsvwg-sctp-ndata) is available, it is used and the length restriction for unordered or unreliable data channels is removed

Open Issues No 6: Message Size Limitations

- Issue
 - What are message size limitations?
- Proposed Resolution
 - Message size limit of at least 100 MB
 - If SCTP level interleaving is not supported, the message size limit of unordered or unreliable data channels is 10 KB