PPID based Fragmentation and Reassembly for SCTP

draft-tuexen-tsvwg-sctp-ppid-frag-00

Michael Tüxen (tuexen@fh-muenster.de)
Randell Jesup (randell-ietf@jesup.org)
Hannes Tschofenig (hannes.tschofenig@gmx.net)
Payload Protocol Identifier

- The Payload Protocol Identifier (PPID) is metadata (32-bit unsigned integer) for a user message, which is transferred from the sender to the receiver unmodified by SCTP.
- Often used to identify the upper layer.
- IANA registry using FCFS.
- The idea of using the PPID for fragmentation and reassembly of large reliable user messages was already described in draft-ietf-rtcweb-data-channel-06 (4 January 2015).
Procedure

- The sender splits the large ordered reliable user message into multiple user message fragments.
- Use two PPIDs per upper layer instead of one:
  - PPID_cont for all but the last user message fragment.
  - PPID_last for the last user message fragment.
- The receiver reconstructs the user message from the user message fragments based on the PPID.
Use Cases

• Support for large ordered reliable user messages for an SCTP implementation
  – not supporting fragmentation at all (limited by association MTU).
  – not supporting I-DATA chunks (limited by head of line blocking).

• Support for large ordered reliable user message when using DTLS/SCTP as specified in draft-tuexen-tsvwg-rfc6083-bis-04 (limited by the DTLS record size limit).