Zero Checksum for SCTP

draft-ietf-tsvwg-sctp-zero-checksum-01

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Motivation

- SCTP uses CRC32c to detect errors during transmission. Motivated by SCTP/IPv4 and SCTP/IPv6.
- The CRC32c provides no value when SCTP/DTLS (WebRTC) is used but uses CPU resources for computing.
- Allow, in a backwards compatible way, to use zero as an incorrect CRC32c reducing the CPU resources needed.
Changes

• Allow alternate error detection methods, announced in the Zero Checksum Acceptable parameter.
• This document defined SCTP over DTLS as an error detection method. Other possibilities include the AUTH or CRYPTO chunk.
• IANA registry for EDMID, first come first serve.
Implementation Status

• Implemented in the FreeBSD kernel and the usrsctp userland stack.
• Currently being tested for integration into dcSCTP.
• Support available in packetdrill and Wireshark.
• Test suite for packetdrill available at https://github.com/sctplab/zero-checksum
Next Steps

• Submit revision 02, addressing IANA feedback and feedback from Peter Lei in addition to minor wordsmithing.

• Address any upcoming feedback.

• WG last call