Retransmit bit for SCTP DATA, I-DATA and SACK

draft-proshin-tsvwg-sctp-rtx-bit

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Motivation

- SCTP cannot understand if SACK was sent in response to the originally sent DATA or retransmitted one.
- Main use cases:

- **EP-A** to **EP-B**
  - DATA
  - SACK
  - SCTP can’t understand if original or rtx DATA is acked.
  - Rtx triggered

- **EP-A** to **EP-B**
  - DATA
  - SACK
  - SCTP can’t understand if original or rtx DATA is acked.
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Retransmit bit (R-bit) for SCTP

- R-bit is reserved in DATA, I-DATA and SACK
- R-bit support requires negotiation in INIT/INIT ACK
- If negotiated, SCTP SHOULD set the R-bit every time it retransmits DATA or I-DATA
- When DATA or I-DATA with the R-bit is received, SCTP MUST immediately respond by SACK with R-bit
Updates since IETF 104

• Draft version -01 submitted
  – Added the description of SCTP improvements from the R-bit mechanism
  – Added clarifications to the issue with multiple retransmissions
  – Editorial improvements
• Implemented the negotiation mechanism of the R-bit (not in the live network though)
• Collection of data with signaling traffic profiles is started
• Interoperability with LKSCTP is ongoing
SCTP Improvements from R-bit

• SCTP mechanisms that can be improved by the support of the R-bit
  – RTO Calculation
  – Path Failure Detection
  – Quick Failover Algorithm (SCTP-PF)
• Detection of spurious retransmissions (even in case of multiple retransmissions)
• Calculation of Maximum Ack Delay
Implementation Status

• Implemented in Ericsson SCTP and enabled between Ericsson SCTP endpoints
• Local patch for LKSCTP (without negotiation), used in interoperability tests
Plans

• Close all TBDs in the next version
• Collect and share data of the improvements from the mechanism (signaling traffic profiles)
• More interoperability with patched LKSCTP
• WG adoption