

Network Working Group
INTERNET-DRAFT

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Stream Control Transmission Protocol (SCTP)
An Algorithm for Gap Report and Duplicate TSN Calculations
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Abstract

This Internet Draft describes an algorithm for the tracking and generation of SACK Gap and Duplicate TSN reports. This algorithm has been implemented in the OpenSS7 Linux Kernel implementation of SCTP^{RFC 2960}.

1. Introduction

This internet-draft provides an algorithm for tracking gap and duplicate TSN SACK reports for the Stream Control Transmission Protocol as described in^{RFC 2960}.

There are several difficulties to consider when attempting implementation of the Gap and Duplicate TSN reports in SCTP:

- i) The algorithm must support a quick determination of whether the TSN is a duplicate TSN.
- ii) The algorithm must support a quick determination of whether the TSN falls within an existing SACK'ed TSN range.
- iii) The algorithm must support counting duplicates accumulated over a number of SCTP messages but be able to be cleared quickly as a Duplicate TSN report is generated.
- iv) The algorithm must support on demand generation of Gap Reports.
- v) The algorithm must consume a finite and bounded amount of memory.
- vi) The algorithm must smoothly interwork with the SCTP's procedures.

The algorithm presented in this internet-draft attempts to meet all of these objectives and provide a compact solution.

Security Considerations

Acknowledgements

References

RFC 2960.

Randall Stewart, Qiaobing Xie, Ken Morneault, Chip Sharp, Hanns Juergen Schwarzbauer, Tom Taylor, Ian Rytina, Hallerwar Kalla, Lixia Zhang, and Vern Paxson, "Stream Control Transmission Protocol (SCTP)," RFC 2960, The Internet Society (February 2000).

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