Enhanced Alternate Marking Method

draft-zhou-ippm-enhanced-alternate-marking-00

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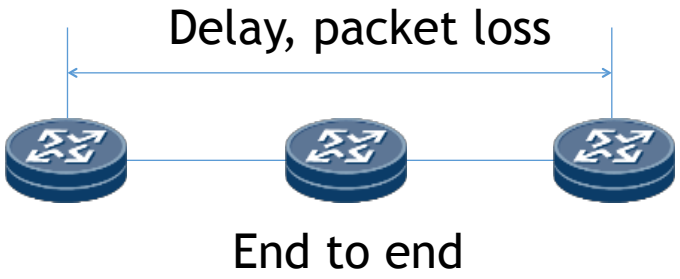
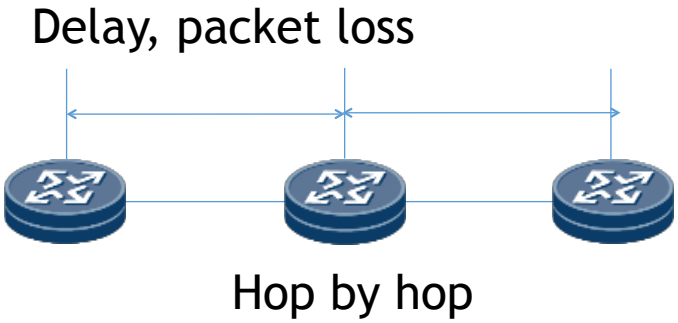
Motivation

- Alternate Marking (RFC8321) is technique is an hybrid performance measurement method.
  - ➢ It can be used to measure packet loss, latency, and jitter on live traffic.
  - ➢ The basic Alternate Marking method requires one or two bits to mark consecutive batches of packets.
- However
  - ➢ In some protocols, no additional bit can be used
  - ➢ Limited by the scalability for further extension

Basic Ideas

- Two kinds of measurement:

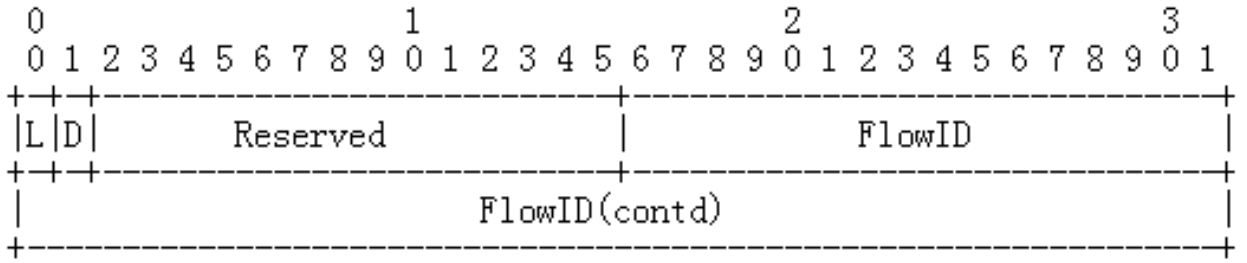




- Flow ID: help to identify the measured flow.
- More reserved field for further use.

Encapsulate with the End to End IOAM

- IOAM [I-D.ietf-ippm-ioam-data] defines a generic meta data structure to records OAM information within user packets while the packets traverse a network.
- The IOAM-E2E-Type filed within the IOAM edge-to-edge option header is a 16-bit identifier which specifies which data types are used in the E2E option data.
- One bit from bit 4-15 can be used to indicate the presence of data used for alternate marking.



where:

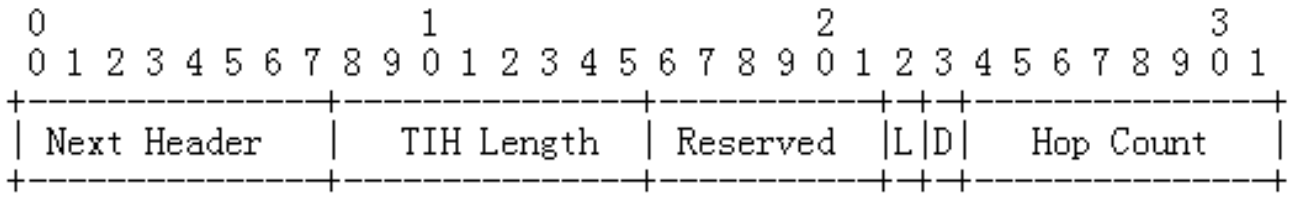
- L - Loss flag;
- D - Delay flag;
- FlowID - 6-octet unsigned integer. Flow identifier field is to uniquely identify a monitored flow within the in-situ OAM domain.

Encapsulate with the PostCard Base Telemetry

- The PostCard Base Telemetry (PBT) [I-D.song-ippm-postcard-based-telemetry] is proposed to directly exports the telemetry data to a collector through separated OAM packets called postcards, while not require inserting telemetry data into user packets.

- This proposes to use the two bits from the Reserved field from the Telemetry Information Header (TIH).

- The existing FlowID within the TIH can be reused.



where:

- L - Loss flag;
- D - Delay flag.

Thank You and Comments