IOAM Trace Option Extensions for Incorporating the Alternate-Marking Method

draft-he-ippm-ioam-extensions-incorporating-am-02

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Motivation , Objective and Solution

Motivation and Objective

- IOAM Trace Option [RFC9197]（passport mode） and IOAM Direct Export (DEX) Option [RFC9326] （postcard mode）have faced some problems in doing performance measurements such as packet loss.
- This draft intends to augment IOAM's capabilities in performance measurement aspects by incorporating the Alternate-Marking Method.

Solution

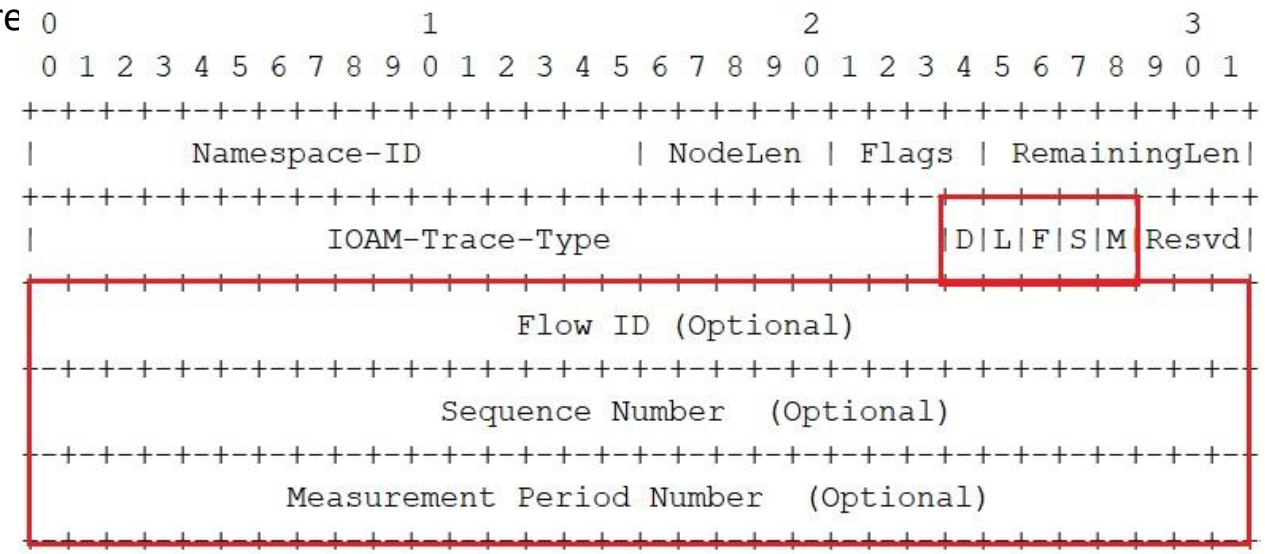
- By extending Trace Option, defines the most significant 5 bits of the Reserved field (D, L, F, S, M) and optional Flow ID, SN, and MPN field.
- Using 32 bits for Flow ID, which may be devided into two sub-fields: NodeID (assigned globely) and FlowMonID （assigned locally）, so it may be deployed in distributed way in case of central controller unavaillable.
- It could support the three IOAM operation modes: only IOAM trace monitoring; only performance measurement; hybrid.

Benefits

- Augment IOAM Trace Option's capabilities in performance measure
- Augment the Alternate-Marking Method in IPv6 (RFC9343) .
- Only unique packet header encapsulation format is used for both IOAM trace monitoring and performance measurement such as packet loss, latency and jitter, thus simplifing the complexity of forwarding chips.

IANA Consideration

– IOAM Option-Type: IOAM Extended Trace Option Type (TBA-type, suggested code point 6)



Next Steps

- Any comments or any suggestions?
- Request for WG adoption call