

# IOAM Direct Exporting (DEX) Option Extensions for Incorporating the Alternate- Marking Method

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# Motivation , Objective and Solution

## Motivation and Objective

- IOAM Direct Export (DEX) Option [RFC9326] (postcard mode) have faced some problems in doing performance measurements such as packet loss, including more processing overhead and bandwidth, inaccurate measurement results and inconsistent measurement methodology, etc.
- This draft intends to augment IOAM's capabilities in performance measurement aspects by incorporating the Alternate-Marking Method.

## Solution

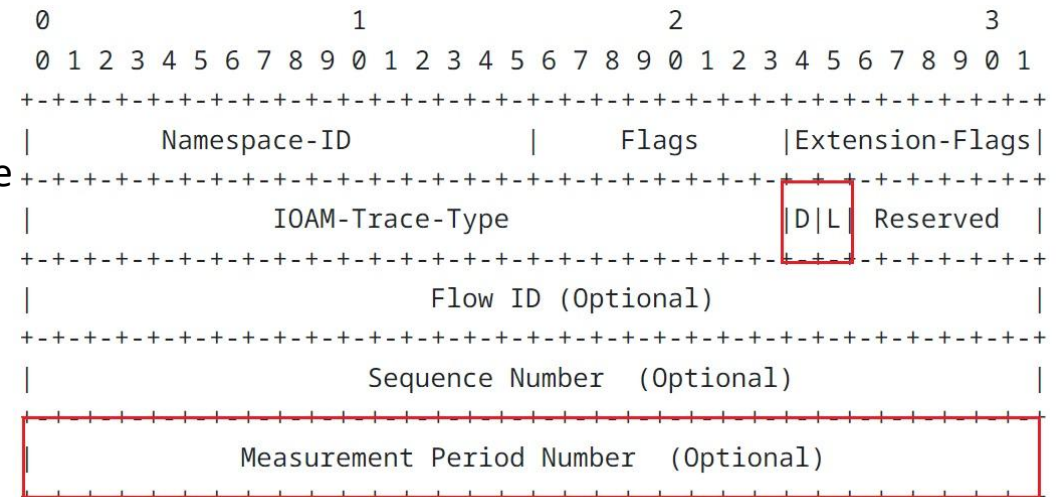
- By extending DEX Option, defines the most significant 2 bits of the Reserved field (D, L) and MPN field .
- Using 32 bits for Flow ID, which may be divided into two sub-fields: NodeID (assigned globally) and FlowMonID (assigned locally) , so it may be deployed in distributed way in case of central controller unavailable.
- It could support the three IOAM operation modes: only IOAM trace monitoring; only performance measurement; hybrid.

## Benefits

- Augment IOAM DEX Option's capabilities in performance measurement.
- 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 simplifying the complexity of forwarding chips.

## IANA Consideration

- IOAM Option-Type: IOAM Extended DEX Option Type (TBA-type, suggested code point 5)
- Extension-Flags: Bit 3(MPN)



# Next Steps

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