Combines PDM and Marking

- RFC8250: Performance and Diagnostic Metrics (PDM)
- RFC8321: Alternate-Marking Method for Passive and Hybrid Performance Monitoring
Why?

• PDM : IPv6 Destination Option provides packet sequence number and performance information end-to-end

• Marking provides error information

• Marking is IPv4 only

• Need one-way network path information as well as end-to-end metrics
PDM Fields

Performance and Diagnostic Metrics Destination Option (PDM) contains the following fields: (by 5-tuple)

- **PSNTP** : Packet Sequence Number This Packet
- **PSNLR** : Packet Sequence Number Last Received
- **DELTATLR** : Delta Time Last Received
- **DELTATLS** : Delta Time Last Sent
- **SCALEDTDL** : Scale for Delta Time Last Received
- **SCALEDTLS** : Scale for Delta Time Last Sent
PDM Provides:

- Round trip delay
- Server delay
- Does not provide one-way delay or middlebox delay
Marking Fields

• Marking can be applied to delineate blocks of packets based either on equal number of packets in a block or based on equal time interval.

• First/Last Batch Packet Delay calculation: timestamps are collected based on order of arrival so this method is sensitive to packet loss and re-ordering.

• Average Packet Delay calculation: an average delay is calculated by considering the average arrival time of the packets within a single block. This method only provides single metric for the duration of the block and it doesn't give information about the delay
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Next Steps / Questions

• What should Middlebox identifier be?

• Collaborate with iOAM work? Inside an administrative domain?

• Comments?