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
<table>
<thead>
<tr>
<th>Option Type</th>
<th>Option Length</th>
<th>Version</th>
<th>LastM</th>
<th>M</th>
<th>MType</th>
<th>Rsvd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timestamp In</td>
<td>PSN This Packet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

--- [Room for 5 middleboxes]

- Fixed length header
- Sent by source
- Each middlebox will update
- More than 5 will wrap
- LastM is Last Middlebox who updated.
Timestamp Calculation

• 16 bits

• Delta from fixed offset

• January 1, 2019

• Same calculation as PDM
Next Steps / Questions

• What should Middlebox identifier be?

• Collaborate with iOAM work? Inside an administrative domain?

• Comments?