IPFIX Alternate-Marking Information

draft-ietf-opsawg-ipfix-alt-mark-00

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IPFIX Alternate-Marking IEs (1/2)

RFC 9343 defines the IPv6 option containing the FlowMonID, Loss (L) and Delay (D) flags

```
+----------------------------------+
|     Type       | Length     |
+----------------------------------+
| FlowMonID      | L|D| Reserved |
+----------------------------------+
```

For data decomposition, the packet header sections (e.g. RFC9343 IPv6 AltMark EH), are being exposed as part of ipPayloadPacketSection(IE314).
- The IPv6 payload follows the IPv6 header and EHs are considered part of the payload.

For data correlation and aggregation, both existing and new IPFIX entities are employed.
- A flow can be identified using IEs such as Hostname, sourceIPv4Address(IE8) or sourceIPv6Address(IE27), sourceTransportPort(IE7), destinationIPv4Address(IE12) or destinationIPv6Address(IE28), destinationTransportPort(IE11), protocolIdentifier(IE4),...

- Since new Flow Keys can be "promoted" from specific non-key fields, FlowMonID, Loss flag and Delay flag are considered Flow Key fields.

- It is also defined the PeriodID, which is needed for Alternate-Marking measurement correlation as per draft-ietf-ippm-alt-mark-deployment.
IPFIX Alternate-Marking IEs (2/2)

For measurements, the packet count can be done with:
• octetDeltaCount(IE1) or packetDeltaCount(IE2).

While, to calculate delay,
• either flowStartSeconds(IE150), flowStartMilliseconds(IE152), flowStartMicroseconds(IE154) or flowStartNanoseconds(IE156), can be used depending on timestamp granularity requirements.
• It is also possible to use flowEndSeconds(IE151), flowEndMilliseconds(IE153), flowEndMicroseconds(IE155) or flowEndNanoseconds(IE157).

This document requests IANA to create a new registry called “IPFIX Alternate-Marking” and include FlowMonID, Loss and Delay flag and PeriodID.
Questions from Med Boucadair after WG Adoption about the operation mode (clarifications to be added in the next version):

- With Alternate Marking (RFC 9341, RFC 9342), each node needs to export the packet counters and timestamps at each period for the monitored flow.
- To identify and export telemetry data for an AltMark monitored flow, it is needed a combination of already existing IEs and new IEs, which are introduced in this draft.

Comments are always welcome!