

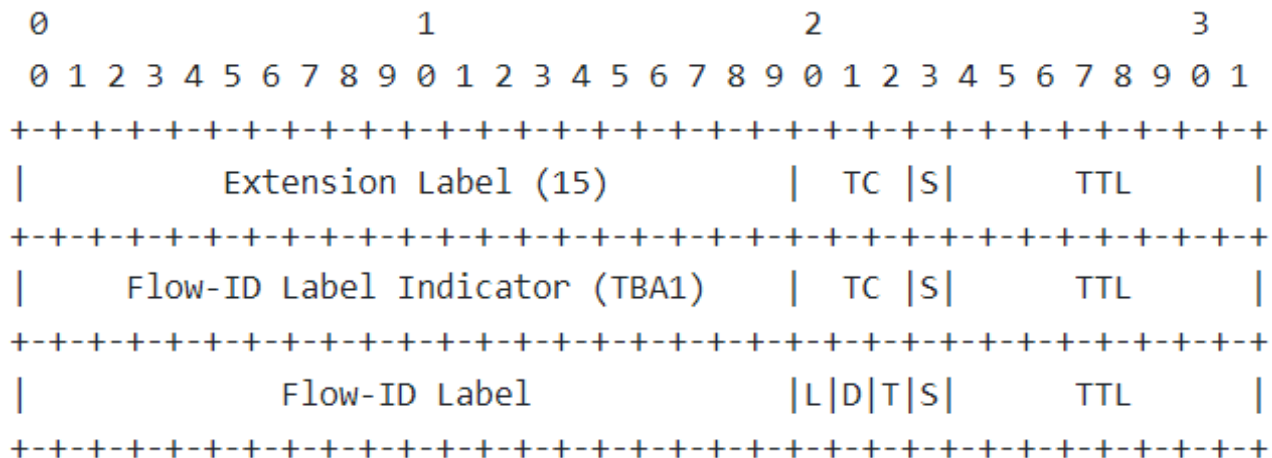
Encapsulation For MPLS Performance Measurement with Alternate Marking Method

draft-ietf-mpls-inband-pm-encapsulation-05

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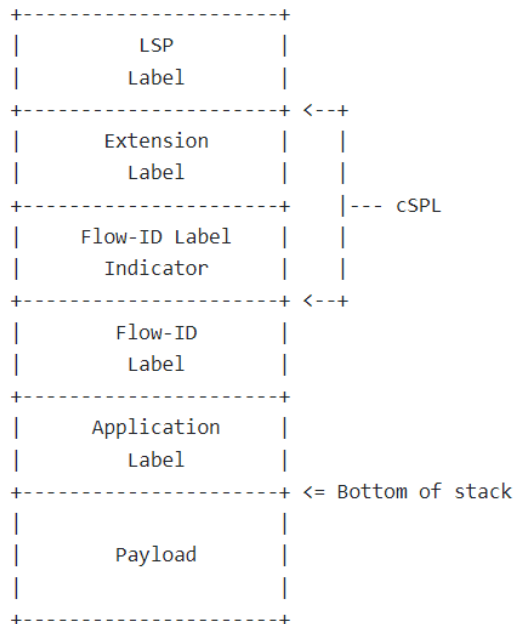
Recap on this draft (1)

- This document defines the encapsulation for MPLS performance measurement with alternate marking, whose format is as below.

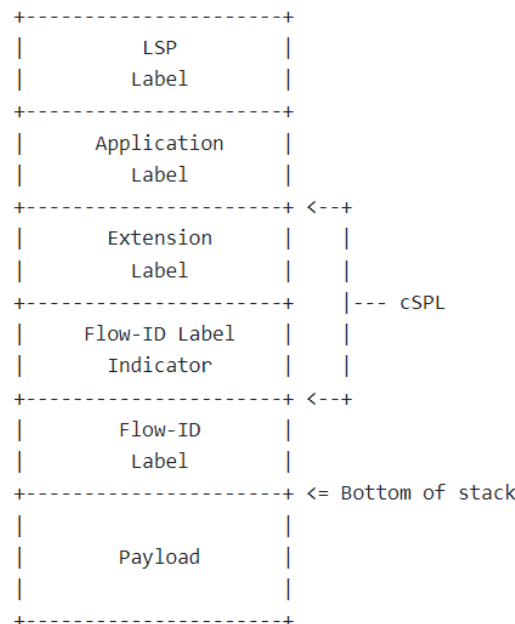


- Flow-ID Label is used as an MPLS flow identification.
- L(oss) bit is used for coloring the MPLS packets for loss measurement.
- D(elay) bit is used for coloring the MPLS packets for delay/jitter measurement.
- T(ype) bit is used to indicate the measurement type, edge-to-edge or hop-by-hop.

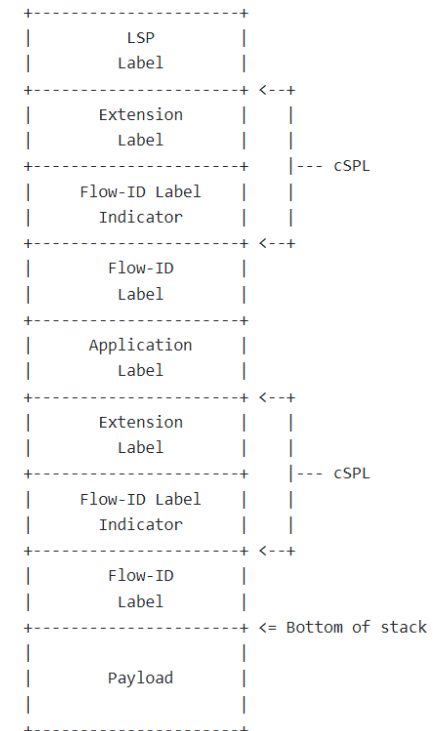
Recap on this draft (2)



Applying Flow-ID to MPLS transport



Applying Flow-ID to MPLS service



Applying Flow-ID to both MPLS transport and service

- This document provides three examples on how to encapsulate the Flow-ID Label into the label stack.

Recap on this draft (3)

- This document describes two ways on how to allocate Flow-ID.
 - In the case of manual trigger, the NMS/controller would generate one or two Flow-IDs based on the input from the network operator, and provision the ingress node with the characteristics of the measured flow and the corresponding allocated Flow-ID(s).
 - In the case of automatic trigger, the NMS/controller would generate one or two Flow-IDs based on the characteristics exported from the ingress node, and provision the ingress node with the characteristics of the identified flow and the corresponding allocated Flow-ID(s).

Relationship with MNA

- This document employs an eSPL as the Flow-ID Label Indicator, while the MNA (draft-ietf-mpls-mna-hdr) employs a bSPL as the MNA Sub-Stack Indicator.
- The Flow-ID Label's encoding defined in this document has been implemented and deployed for several years, running code is already there.
- The main authors realized that the Flow-based inband PM described in this document can be a potential applicable MNA usecase.
- A new draft (draft-cx-mpls-mna-inband-pm) has been posted before IETF 116 to address the potential MNA usecase.

Next step

- Ask for WGLC

Thank you!

MNA for Performance Measurement with Alternate Marking Method

draft-cx-mpls-mna-inband-pm-01

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Intention of this draft

- This document defines MNA encoding for MPLS performance measurement with alternate marking method, which performs flow-based packet loss, delay, and jitter measurements on MPLS live traffic
 - The MNA encoding is compliant with the MNA sub-stack solution specified in draft-ietf-mpls-mna-hdr
 - The MNA encoding reuses the data fields specified in draft-ietf-mpls-inband-pm-encapsulation

MNA for Alternate Marking

- In the revised -01 draft, LSE Format C defined in draft-ietf-mpls-mna-hdr is used for Alternate Marking.

```

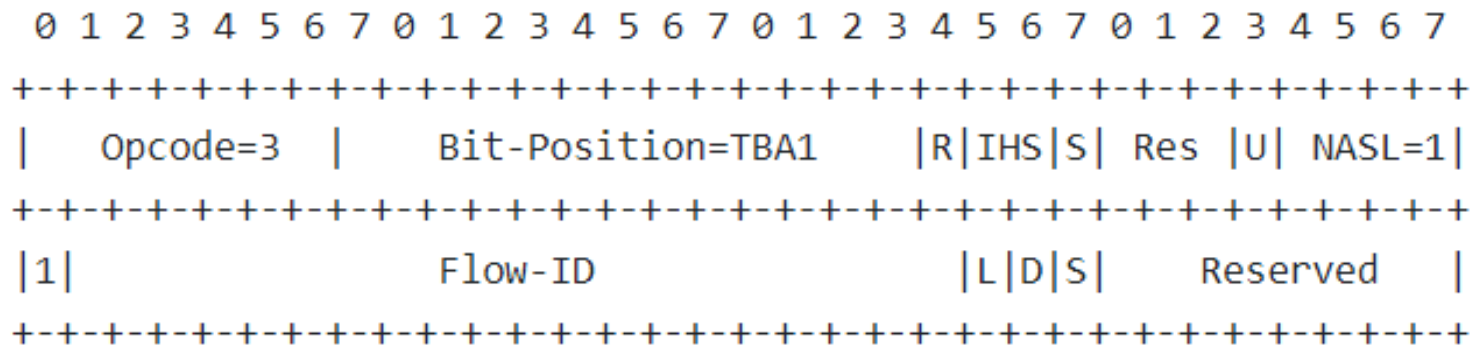
0 1 2 3 4 5 6 7 0 1 2 3 4 5 6 7 0 1 2 3 4 5 6 7 0 1 2 3 4 5 6 7
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|Opcode=PMAMMM |                               |S|FID|L|D| NAL=0 |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
```

- In order to adapt the LSE Format C, the length of Flow-ID value is shorten from 20bits to 18bits.
- This draft requests the following allocation from IANA.

MNA Opcode	Description	Scope
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TBA1	PM with Alternate Marking Method	HBH, Select, or I2E

Dropped MNA format

- In the previous -00 draft, LSE Format B with Special Opcode 0x3 is used for Alternate Marking.



- The above MNA format was dropped in revision -01, because it's assumed that most likely Opcode 0x3 with Flag + 30-bit data solution will be removed from draft-ietf-mpls-mna-hdr.

Next steps

- Ask for more review and comments
- Revise this draft to improve it
- WG adoption?

Thank you!