

Handling MPLS-TP OAM Packets Targeted at Internal MIPs

draft-farrel-mpls-tp-mip-mep-map-04

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History

- OAM framework specifies per-interface MIPs (two or more MIPs on each side of the forwarding engine)
- Does not specify how OAM packets destined to per-interface MIPs are handled
 - Many possible options...needs to be specified for implementors

More history

- Changes since -03 version
 - Removed the use of ACH TLVs based on feedback received
 - Removed the use of a reserved label based on feedback received
 - Described (two) new way(s) of addressing per interface MIPs
 - Merged with draft-koike-ietf-mpls-tp-oam-maintenance-points-01
 - Appendix with other alternatives

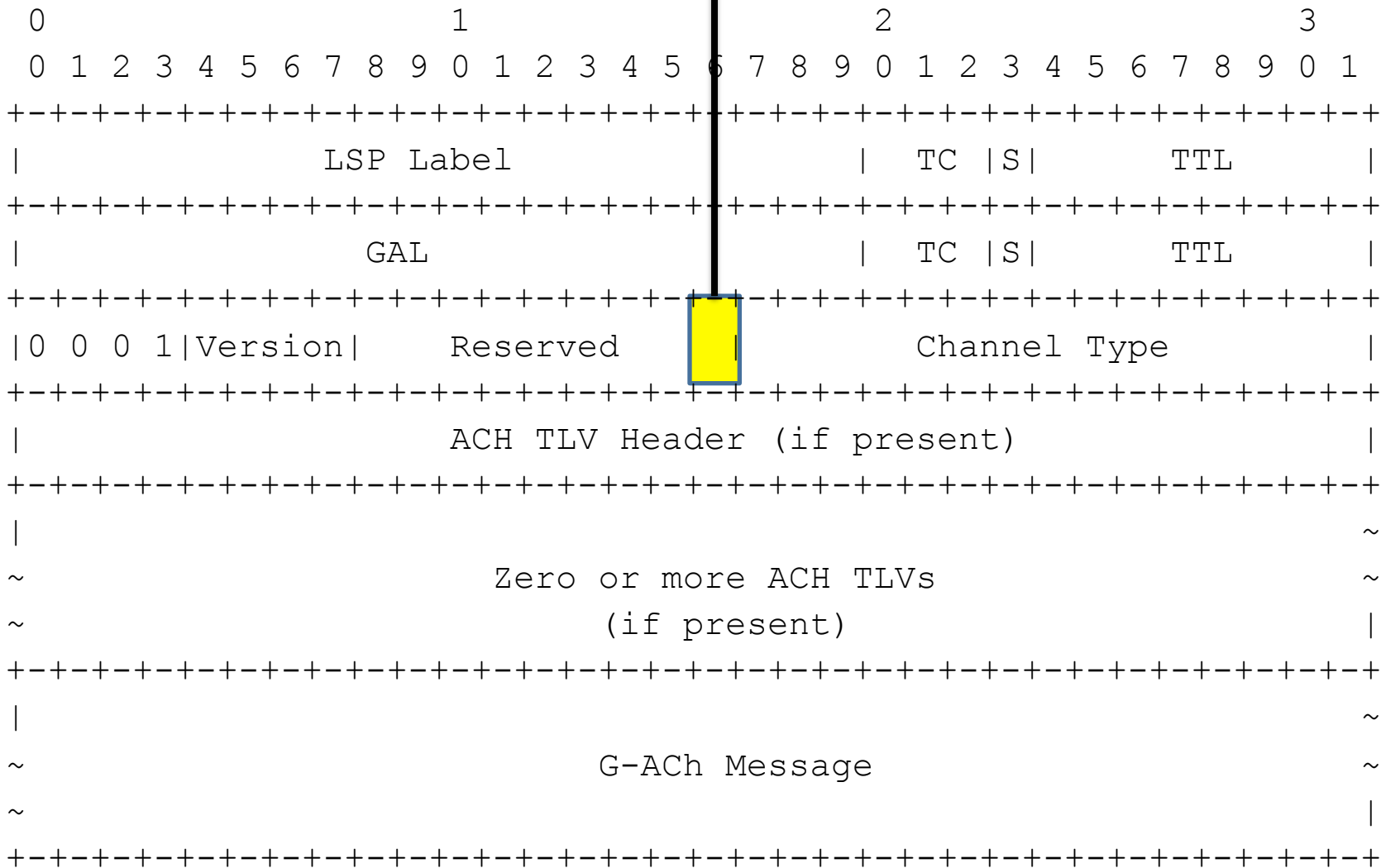
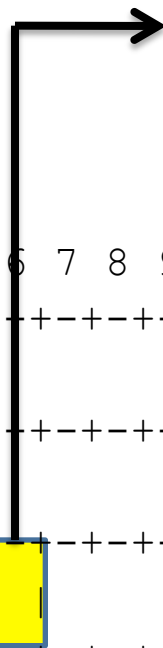
Requirements

- Forwarding of OAM packets exactly as data packets without mis-ordering.
- Delivery of OAM messages to the correct MPLS-TP node.
- Direction of OAM instructions to the correct MIP within an MPLS-TP node (arrival at the wrong MIP should be handled).
- Packet inspection at the incoming and outgoing interfaces must be minimized.

Option 1 - Reserved bit

- No semantic overlap with anything that exists
- Still enough bits left (8 bits)
- Potentially safe (must be ignored by legacy)
- Hardware-friendly
- Update to RFC 5586 and 4385, then works for both PWs and LSPs

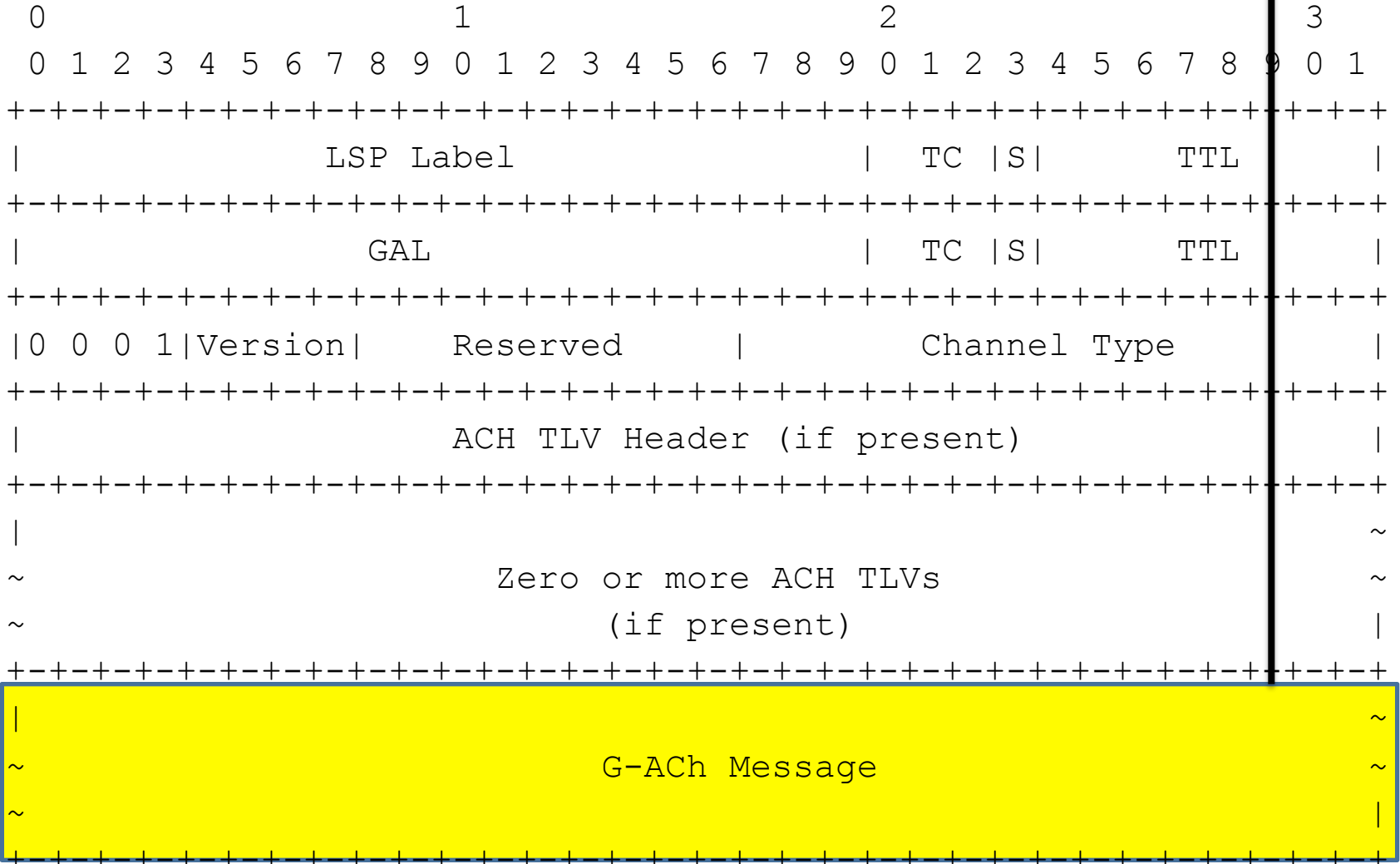
0: ingress
1: egress



Option 2 – ID-based

- Use existing ID information in the OAM messages
- Leave it to the node implementation to deliver it
- No „on-the-wire“ packet format changes required
- Slightly more complex processing compared to option 1

ID TLV ←



Option 2 and current solutions

- draft-on-demand-cv-05 already specifies Ingress/Egress IF_Num
- Address/ID TLVs
 - Not a fixed location (within and across solutions) therefore a SW solution is needed
- Need to make sure this solution is satisfying all of the requirements

Next steps

- Come to a conclusion on which option to pick
 - Feedback please
- Ensure this is safe in all conceivable cases (i.e. no OAM packet leakage)
- WG adoption would be good
 - Even if it's just to get this requirement into the back of people's heads
 - would be standards track...or alternatively move the text into another document