BIER Extension Headers

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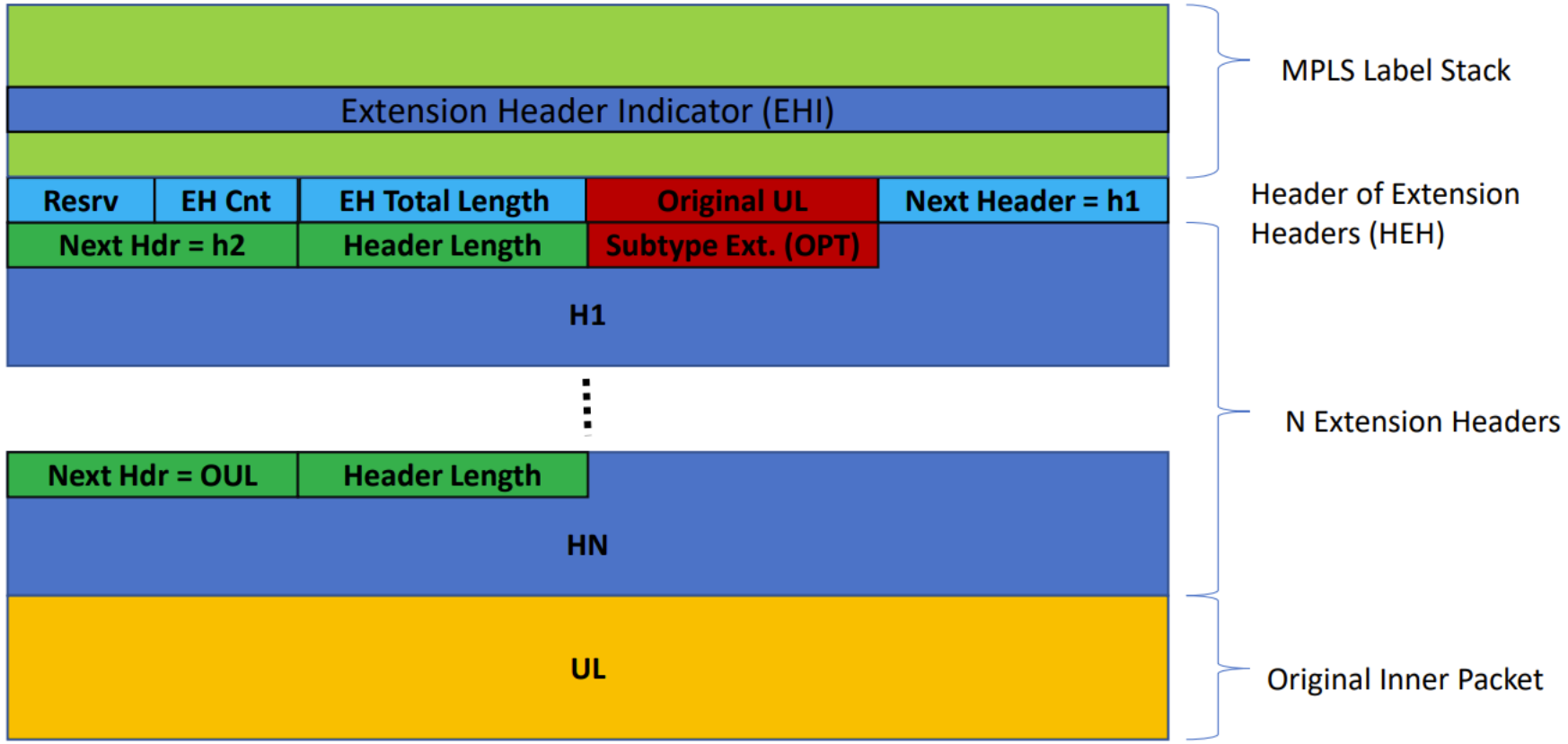
Background

- There have been several drafts relating to BIER Extension Headers
  - draft-zzhang-intarea-generic-delivery-functions (GDF)
    - Common extension headers for generic functionalities at different layers
      - Fragmentation/security/IOAM/whatever over BIER/IPv6/MPLS
    - Referred to in an IETF112 BIER presentation for another use case
  - https://datatracker.ietf.org/doc/html/draft-xzlnp-bier-ioam-00
    - BIER IOAM functionality using BIER extension header as one of the options
- MPLS has a design team looking at MPLS extension headers
  - https://datatracker.ietf.org/doc/html/draft-song-mpls-extension-header
  - GDF tries to align BIER and MPLS extension headers
- It's time to seriously discuss this in BIER WG

MPLS EH Format Details



From https://datatracker.ietf.org/meeting/111/materials/slides-111-pals-41-20-min-mpls-extension-header-enabling-extensible-in-network-services-haoyu-song-01

A Few Notes

- BIER header will have a “proto” value to indicate Extension Header
  - MPLS label stack will have an Extension Header Indicator
- NH value taken from “IP Protocol Numbers” registry
  - An MPLS/BIER specific header may have a subtype field to extend the space with more flexibility/control
- Header length is in 4-octet units
  - If it were 8-octet, IPv6 extension headers could be used directly (if the functionality is applicable to MPLS/BIER)
    - This would be desired for GDF (a GDF would likely be applicable to IPv6 as well)

Discussions

- Does this make sense to BIER?
- Do we want to use this for BIER IOAM?
- Do we want to align with MPLS?
- Do we want to align with IPv6 as well?
  - 8-octet units for “Header Length”