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
    • BIER IOAM functionality using BIER extension header as one of the options

• MPLS has a design team looking at MPLS extension headers
    • GDF tries to align BIER and MPLS extension headers

• It’s time to seriously discuss this in BIER WG
MPLS EH Format Details

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”