Supporting BIER in non-MPLS IPv6 Networks (BIERin6)

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How to do BIER in non-MPLS IPv6 Networks

• Generalized to “BIER in non-MPLS Networks”
  • IPv6 is orthogonal

• Non-MPLS Encapsulation following one/more outer headers, which could be:
  • Ethernet header (with EtherType 0xAB37)
  • Any outer header with a codepoint indicating payload type is non-MPLS BIER
    • E.g., GRE header (with Protocol Type 0xAB37)
    • E.g., IPv6 header (with a to-be-assigned Protocol number)
      • Used for native IPv6 tunneling or even hop-by-hop
      • Hop-by-hop with IPv6 header is optional - for when hardware does not support BIER codepoint in outer header and software-based forwarding is acceptable
Brief introduction of BIERin6

• Existing procedures defined for IPv4 non-MPLS networks apply to IPv6 with no need for any changes or enhancements.

• All the overlay technologies inherited unchanged, such as MVPN, EVPN, PIM and MLD, etc.

• All the BIER OAM technologies applied with no changing, such as BIER ping, BFD and PM, etc.

• Draft-ietf-bier-lsr-non-mpls-extensions, draft-ietf-bier-prefix-redistribute, draft-ietf-bier-idr-extensions are used for BIER signaling.
• Adopted after IETF109#.
• The underlay drafts all passed WGLC.
• We’d like to request for WGLC for more review.

Thanks!