BIER Encapsulation for IOAM Data

draft-xzlnp-bier-ioam-07

Xiao Min       ZTE Corp.
Sandy Zhang    ZTE Corp.
Yisong Liu    China Mobile
Nagendra Kumar Nainar  Cisco System
Carlos Pignataro  North Carolina State University
Intention of this draft

• Provides the encapsulation for IOAM over BIER
  – Option 1: BIER + BIER OAM + IOAM + Payload
  – Option 2: BIER + IOAM + Payload
  – Option 3: BIER + IOAM as BIER Extension Headers + Payload (selected)

Note: BIER Extension Header is defined in draft-zzhang-bier-extension-headers
Published IOAM Options and Encapsulations Docs

- RFC 9197: Data Fields for IOAM
  - IOAM Trace, PoT, and E2E Options are defined

- RFC 9326: IOAM Direct Exporting
  - IOAM DEX Option is defined

- RFC 9452: NSH Encapsulation for IOAM Data
  - IOAM over NSH encapsulation is defined

- RFC 9486: IPv6 Options for IOAM
  - IOAM over IPv6 encapsulation is defined
Requirements on IOAM over BIER

• It’s deemed necessary to carry IOAM Data in BIER

  - Some multicast flows, such as live video and real-time meeting, are sensitive to packet loss, delay and other factors

  - IOAM provides a way to achieve on-path telemetry information collection, which is necessary for the BIER network operator
IOAM over BIER Encapsulation

- This is a future-proof encapsulation for IOAM over BIER
  - Each IOAM Option is treated as a BIER extension header
  - IOAM and other BIER extension headers can be skipped once for all
Next steps

• Ask for WG adoption of draft-zzhang-bier-extension-headers
• Revise draft-xzlnp-bier-ioam to encapsulate IOAM as a BIER extension header
• Ask for WG adoption of draft-xzlnp-bier-ioam

Thank you!