Background / Motivation

Background
• Multicast traffic monitoring is important
  • Reconstruct and visualize the multicast tree
  • Performance monitoring and trouble shooting
• Conventional OAM techniques are insufficient
• On-path telemetry techniques (e.g., IOAM, PBT) are promising

Problem
• Currently on-path telemetry techniques have flaws.
  • IOAM: Every packet carry the entire data trace $\rightarrow$ data redundancy
  • PBT: No branch identifier $\rightarrow$ can’t correlate the postcards

Objective
• Provide solutions to address the above issues and make the on-path telemetry efficient for multicast traffic and applicable to all flavor of multicast protocols.
Summary

- Two solutions
  - Per-hop Postcard – an enhancement to the original PBT scheme
  - Per-section Postcard – an enhancement to the original IOAM scheme
- Per-hop Postcard
  - A branch node is either the root or any node that replicates packets
  - Each branch node adds a branch identifier to the instruction header
    - For global uniqueness, can use the tuple \{node ID, index\}
Example

• Per-section Postcard
  • A section is the path between two adjacent branch node or between a branch node and its adjacent leaf node.
  • A postcard is send at each section’s end node
    • The postcard contains the data for the entire section
    • Postcards for one packet can be easily stitched together.
  • No need to modify IOAM header format, just need to refresh the header at each section head.
Request to the WG

• Please review

• You are welcome to contribute