Telemetry collection in multicast network

draft-mirsky-ippm-hybrid-two-step
draft-song-multicast-telemetry

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Problem statement

Background
• Multicast traffic monitoring is important
  • Reconstruct and visualize the multicast tree
  • Performance monitoring and trouble shooting
• On-path telemetry techniques are promising

Problem
• Currently on-path telemetry techniques have issues:
  • Per-hop collection of telemetry lacks branch identifier
  • Collecting telemetry information in the multicast packet results in unnecessary replication of telemetry information

Objective
• Provide solutions to address the above issues and make the on-path telemetry efficient for multicast traffic
Per-Hop Solution

- Use the original Postcard (PBT) proposal
- Branch Node - either the root or any node that replicates packets
- Branch node adds a branch identifier to the instruction header
  - For global uniqueness, can use the tuple \{node ID, index\}
Per-Segment Solution in HTS

Branch Node forwards HTS over the first branch and then originates HTS Follow-up packets downstream
Per-Segment Solution in PBT

- **Per-section Postcard**
  - A section is the path between two adjacent branch nodes 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 the same packet can be stitched together.
Next steps

• Your comments, suggestions, questions always welcome and greatly appreciated
• WG adoption