

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

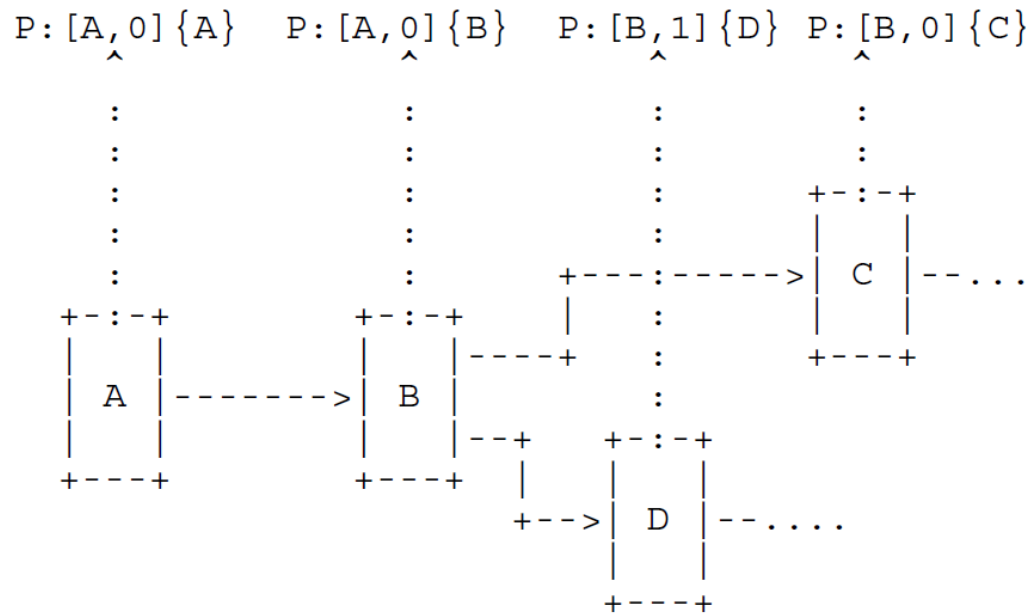
- Currently on-path telemetry techniques have issues:
 - Per-hop collection of telemetry lacks branch identifier
 - Collecting telemetry information in the multicast packet results in unnecessary replication of telemetry information

Objective

- Provide solutions to address the above issues and make the on-path telemetry efficient for multicast traffic

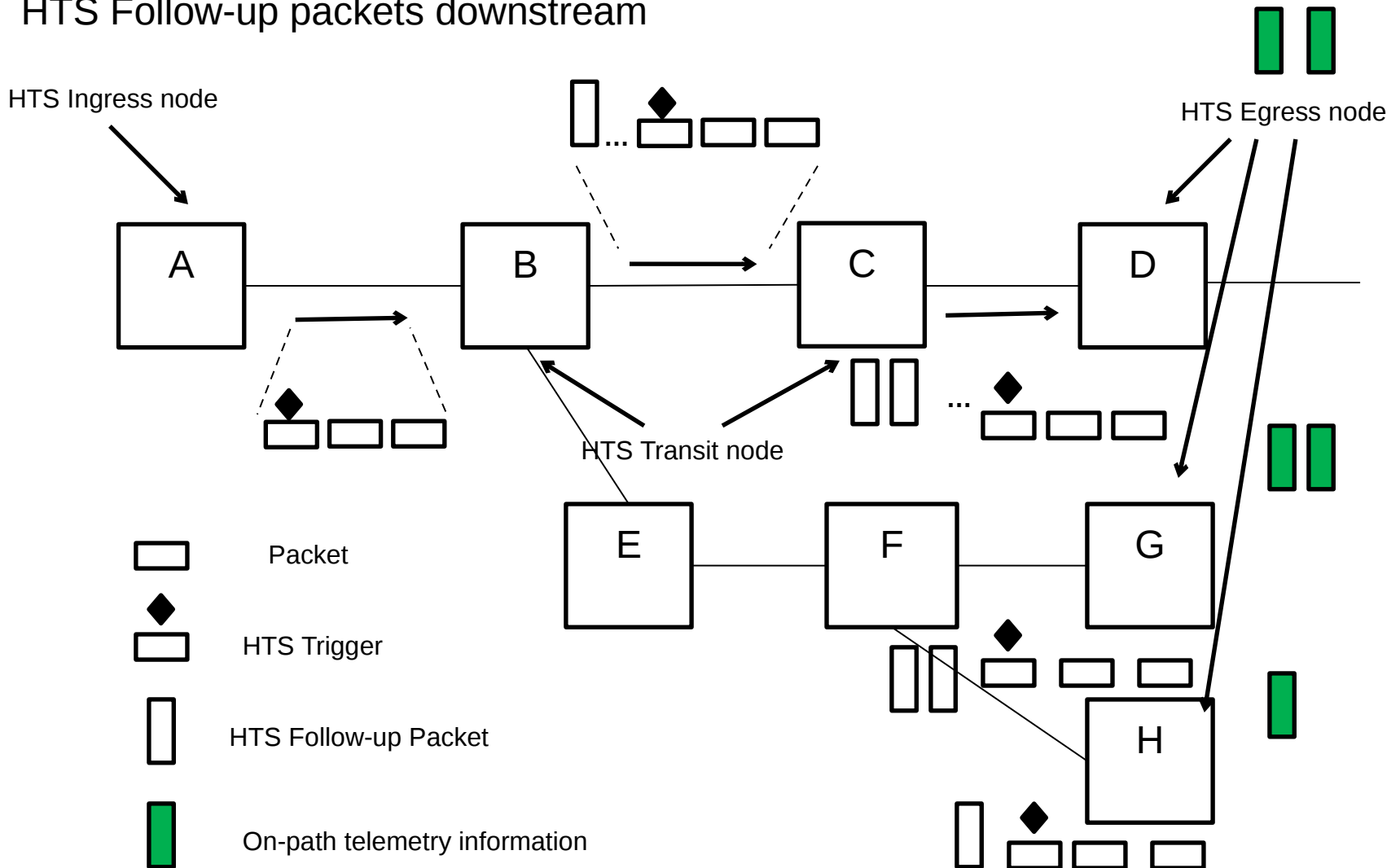
Per-Hop Solution

- 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}



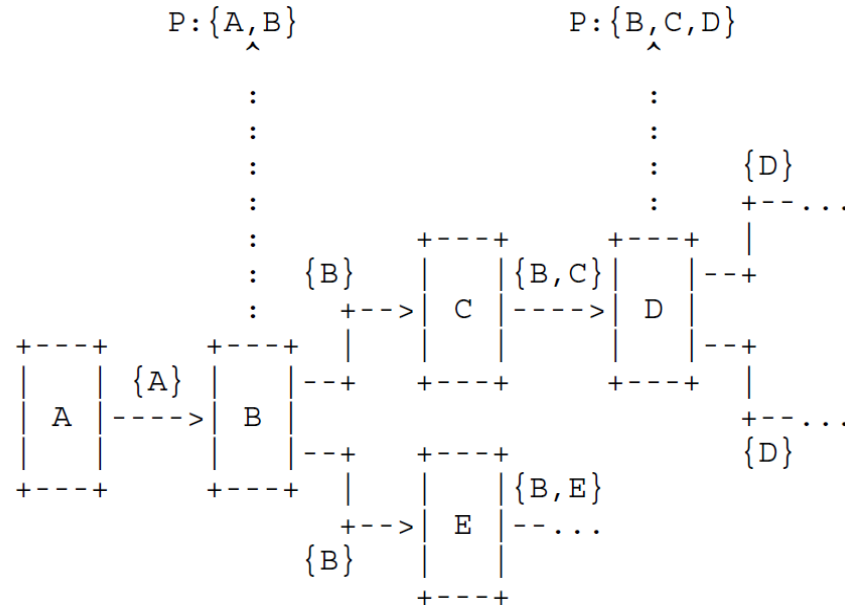
Per-Segment Solution in HTS

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 participation, comments, suggestions, questions always welcome and greatly appreciated.
- Will pursue WG Adoption in IPPM.