

# Simple Two-Way Active Measurement Protocol (STAMP) Extensions for Co-routed Bidirectional Path

*draft-zhang-ippm-stamp-co-routed-bidirectional-path-00*

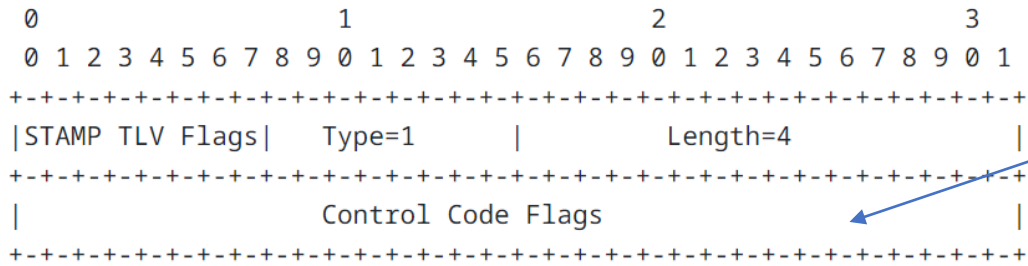
Li Zhang, Tianran Zhou @Huawei

# Background

- STAMP[RFC8762] enables active measurement of both one-way and round-trip performance metrics, like delay, delay variation, and packet loss.
- [RFC9503] specifies STAMP extensions for SR networks, which can transmit the reply test packet on a specific return path. This extension requires the Session-Sender to indicate the return path explicitly.
- **However, in some scenarios, the Session-Sender can't know the return path in advance, but it requires the return path to be the same as the forward path to do a round-trip performance measurement for a path.**

# STAMP Extensions

- Define a new Flag in the STAMP Return Path Control Code Sub-TLV(Defined in RFC9503):

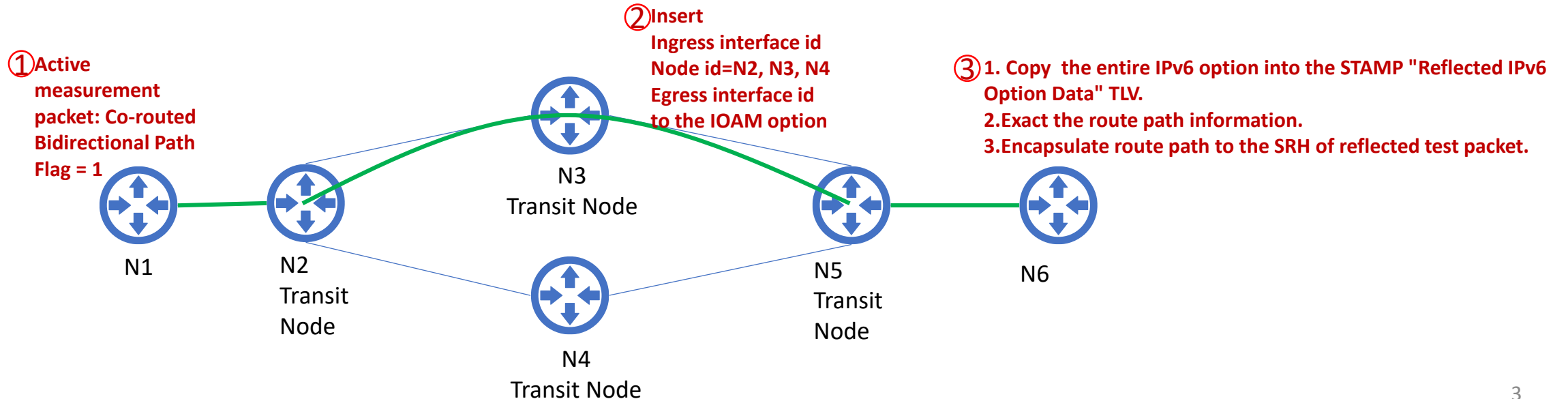


## New Flag: Co-routed Bidirectional Path Flag

- Indicate the transit node to insert the node information
- Indicate the Session-Reflector to reply the reflect-test packet along the same path as the forward path.

Figure 4: Format of the Control Code Sub-TLV in the Return Path TLV

- Example of Co-routed Bidirectional Path Measurement



# Simple Two-Way Active Measurement Protocol (STAMP) Extensions for Multi-path

*draft-zhang-ippm-stamp-mp-00*

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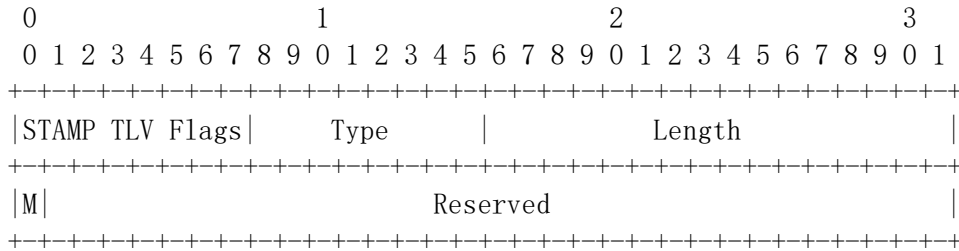
Gyan Mishra @Verizon Inc

# Motivation

- STAMP[RFC8762] is an active performance measurement test protocol, which enables measurement of both one-way and round-trip performance metrics.
- However, STAMP is typically for a specific path, **it can't collect all the path's information on the same time when there are multiple paths**(such as ECMP, UCMP).
- Although the multipath measurement could **be achieved by constructing different IPv6 flow labels or MPLS entropy labels**, but it is hard to know **whether all the available paths has been measured**;

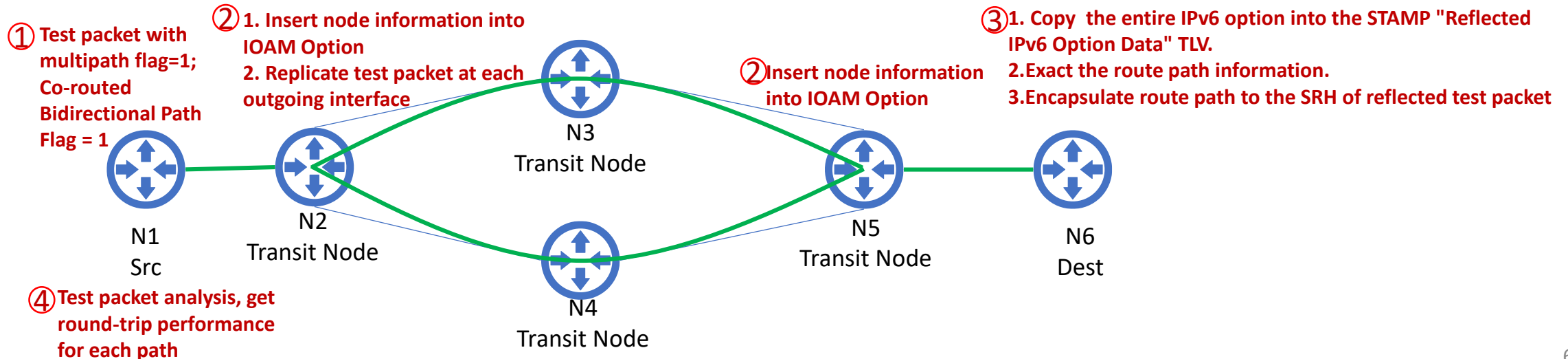
# STAMP Extensions

- Multi-path TLV:



M: Indicate Multi-path measurement.

- Example of multi-path active round-trip measurement with IOAM



The detail procedures could be find in section3 of [draft-zhang-ippm-stamp-mp](#)

- Round-trip multi-path measurement:
  - Combined with Reflecting STAMP Packet Headers Extensions to indicate the route path collected in the IOAM trace option.
  - Combined with Co-routed Bidirectional Path Measurement Extensions.
- One-way multi-path measurement:
  - Combined with Reflecting STAMP Packet Headers Extensions to indicate the route path collected in the IOAM trace option.

Any comments and suggestions are welcome!

Thank You