

# STAMP Extensions for Hop-by-Hop OAM Data Collection

draft-wang-ippm-stamp-hbh-extensions-06

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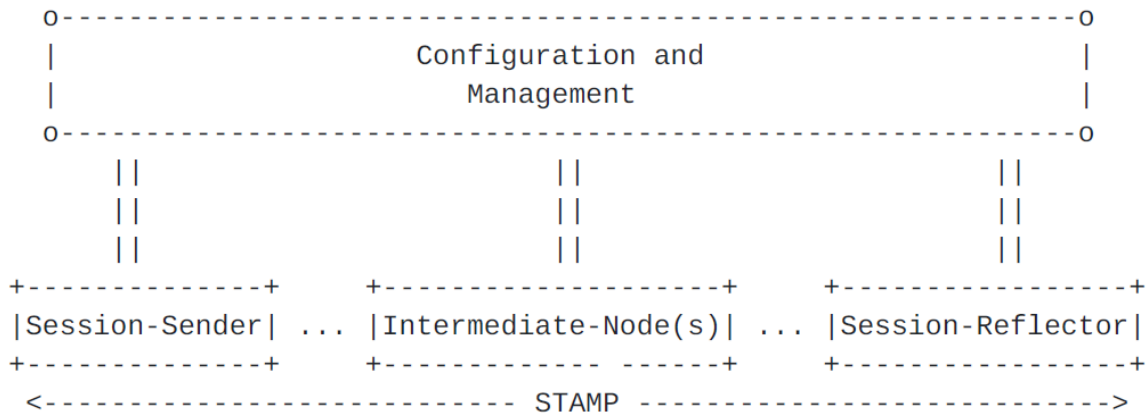
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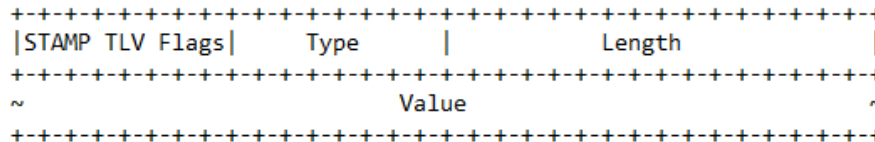
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# HbH STAMP: Motivation

- STAMP (RFC8762) enables active measurements of one-way and round-trip performance between a Sender and a Reflector.
  - However, the performance of intermediate nodes and links is not available.
  - HbH STAMP Reference Model is introduced



- This document introduces optional TLVs to STAMP, in order to enable HbH performance measurement at each intermediate node and link.

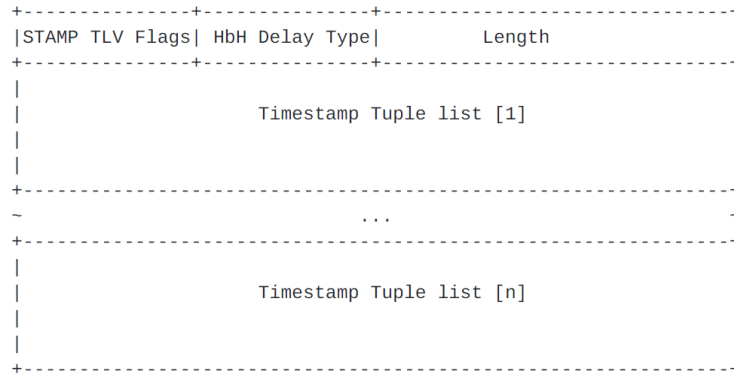


TLV Format in a STAMP Extended Packet as per RFC8972

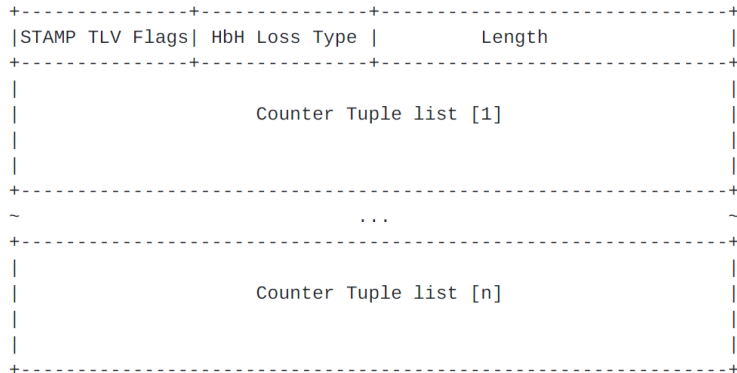
# TLV Extensions to STAMP

- The information is collected in the TLV at each intermediate node and then sent back by the Reflector to the Sender

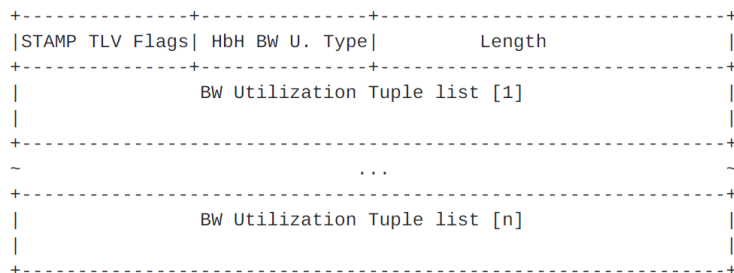
HbH Delay TLV: It records the ingress and egress timestamp at every intermediate node.



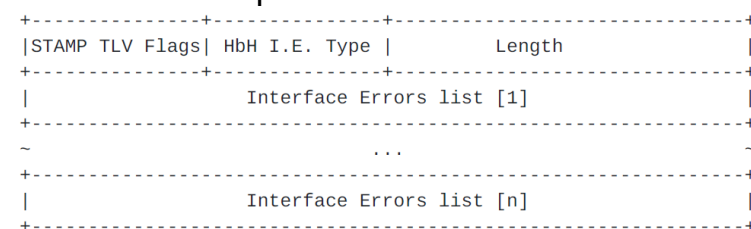
HbH Loss TLV: It records the number of test packets received and transmitted by every intermediate node.



HbH Bandwidth Utilization TLV: It records the ingress and egress BW Utilization at every intermediate node.



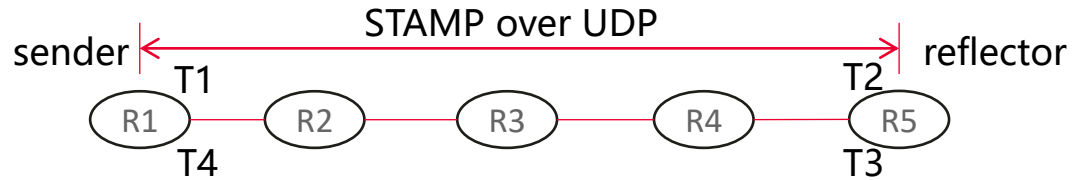
HbH Interface Errors TLV: It records the errors detected on the interface of every intermediate node used to receive the test packets.



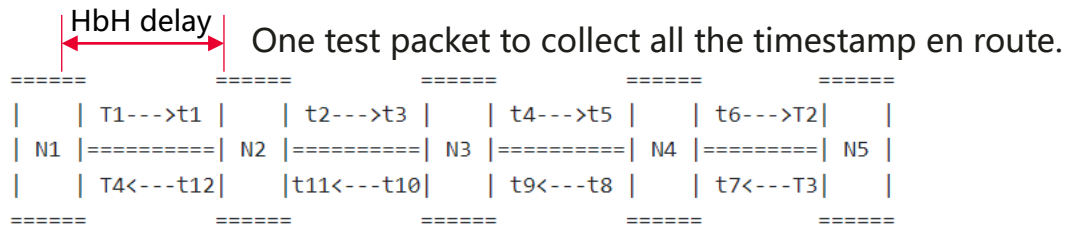
- Note that the TLVs can be activated selectively according to the need.

# STAMP Extensions for HbH PM

- STAMP is only end to end:



- This draft introduces STAMP with hop by hop capabilities:



## Advantages:

- It simplifies the configuration of the the node on the path.
- Collector independent: Head node can quickly get the collect data.

# Changes from -04

- After the discussion at IETF 117 and on the list, the draft has been revised to cover only the STAMP extensions for Hop-by-Hop active measurements.
- While the STAMP extension to carry IOAM data is now discussed in a separate document: [draft-gandhi-ippm-stamp-ioam](#)

Thank You

Comments are welcome!