

# STAMP Extensions for Reflecting STAMP Packet Headers

*draft-ietf-ippm-stamp-ext-hdr-01*

*Rakesh Gandhi - Cisco Systems ([rgandhi@cisco.com](mailto:rgandhi@cisco.com)) - Presenter*

*Tianran Zhou - Huawei ([zhoutianran@huawei.com](mailto:zhoutianran@huawei.com))*

*Zhenqiang Li - China Mobile ([li\\_zhenqiang@hotmail.com](mailto:li_zhenqiang@hotmail.com))*

# Agenda

- Requirements, Goals, and Scope
- Summary of Changes
- FYI: STAMP Extensions in SPRING and MPLS WGs
- Next Steps

# Requirements, Goals, and Scope

## Requirements:

- STAMP Extensions to Reflect packet headers:
  - ✓ Hop-by-hop and edge-to-edge measurements
  - ✓ Two-way and one-way measurements

## Goals:

- Leverage existing implementation of extension headers on midpoint nodes
  - Note: midpoints nodes are agnostics to STAMP protocol
- Avoid IPv6 and MPLS protocol extensions

## Scope:

- STAMP [RFC8762] and STAMP Extensions [RFC8972]
- IPv6 Data plane: IPv6 Extension Headers [RFC8200]
- MPLS Data plane: MPLS Network Action Sub-Stack [draft-ietf-mpls-mna-hdr]

# Summary of Changes

1. Welcome Zhenqiang Li as co-author
2. Updated procedure for reflecting extension headers
3. Added procedure for reflecting fixed headers
4. Various editorial changes

# Summary of Changes - 1

1. Updated procedure for reflecting extension headers
  - a. Handling the ambiguity with multiple headers of the same length
    - Transmit with the first 4 bytes of data filled in TLV and match on reflector
  - b. IPv6 MTU when adding Reflected Data STAMP TLVs
    - Do not add STAMP TLV if MTU exceeded
  - c. Unused Reflected STAMP TLV handling
    - Reflector returns TLV as malformed

# Summary of Changes - 2

1. Added extensions for reflecting fixed headers
  - a. New STAMP TLV Type for Fixed Header Data
  - b. IPv4 (20-byte), IPv6 (60-byte)
  - c. Applicable to other fixed headers

# Summary of Changes - 3

1. Control adding extension headers in the reply packet header
  - a. Add all or none extension headers

# FYI: STAMP Extensions in SPRING and MPLS WG

1. Performance Measurement Using STAMP for Segment Routing Networks
  - <https://datatracker.ietf.org/doc/draft-ietf-spring-stamp-srpm/>
  - Defines SR-PM measurement modes:
    - Two-way, One-way (with no reply), Loopback, and Loopback with timestamp
2. Encapsulation of STAMP for PseudoWires in MPLS Networks
  - <https://datatracker.ietf.org/doc/draft-gandhi-mpls-stamp-pw/>
  - STAMP with Generic Association Channel (GACH)



# Next Steps

- Ready for WG LC?
- Welcome further comments and suggestions

**Thank you!**