TWAMP Light Extensions for Segment Routing Networks

draft-gandhi-ippm-twamp-srpm-00

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Agenda

- Requirements and Scope
- History of the Draft
- Summary of Extensions
- Next Steps

Requirements and Scope

Requirements:

- Delay and Loss Performance Measurement (PM)
  - ✓ Links and End-to-end P2P/P2MP SR Paths
  - ✓ Applicable to SR-MPLS/SRv6 data planes
- Support stand-alone direct-mode loss measurement

Scope:

- RFC 5357 (TWAMP Light) defined probe messages
- User-configured IP/UDP path for probe messages

History of the Draft

- Feb 2019
  - Draft was published - *draft-gandhi-spring-twamp-srpm-00*
- Mar 2019
  - Presented *draft-gandhi-spring-twamp-srpm-00* at IETF 104 Prague in SPRING WG
- July 2019
  - Presented *draft-gandhi-spring-twamp-srpm-01* at IETF 105 Montreal in IPPM WG
    - Slide 9 Titled - Applicability of STAMP
- Nov 2019
  - SPRING Chairs announced in the meeting the agreement with IPPM chairs to progress the draft in SPRING WG
  - Presented *draft-gandhi-spring-twamp-srpm-04* at IETF 106 Singapore in SPRING WG
- Mar 2020
  - Moved STAMP support to *draft-gandhi-spring-**stamp**-srpm-00*
  - Keep TWAMP Light support as informational in *draft-gandhi-spring-**twamp**-srpm-08*
- Jul 2020
  - Presented *draft-gandhi-spring-twamp-srpm-09* at IETF 109 in IPPM WG
- October 2020
  - Split draft into *draft-gandhi-**spring**-twamp-srpm-11 and draft-gandhi-**ippm**-twamp-srpm-00*

TWAMP Light - Session-Sender Control Code Field

In a Query: Session-Sender Control Code

0x0: Out-of-band Response Requested.
This is also the default (current) behavior.

0x1: In-band Response Requested.
Indicates that this query has been sent over a bidirectional path and the probe response is required over the same path in the reverse direction.

0x2: No Response Requested.

- With this, the Session-Reflector node does not require any additional SR state for PM (recall that in SR networks, the state is in the probe packet and signaling of the parameters is avoided).
- Also applicable to non-SR paths.

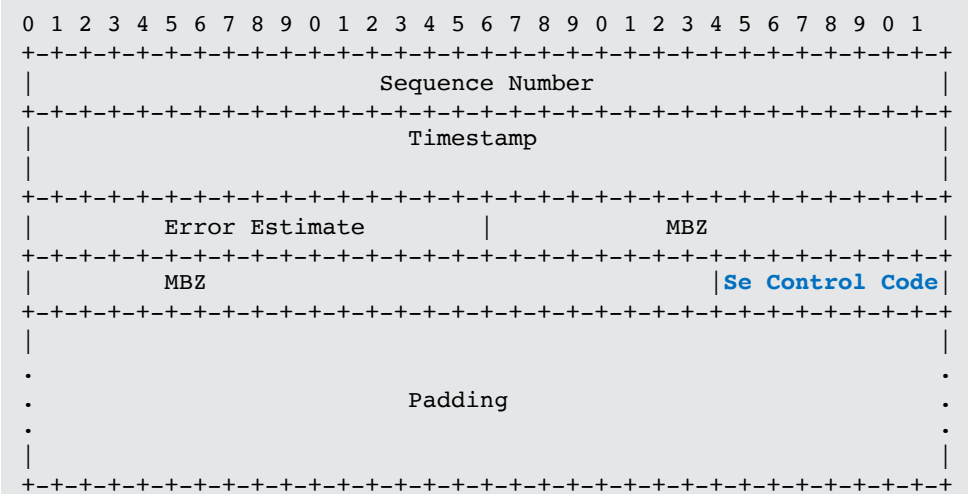
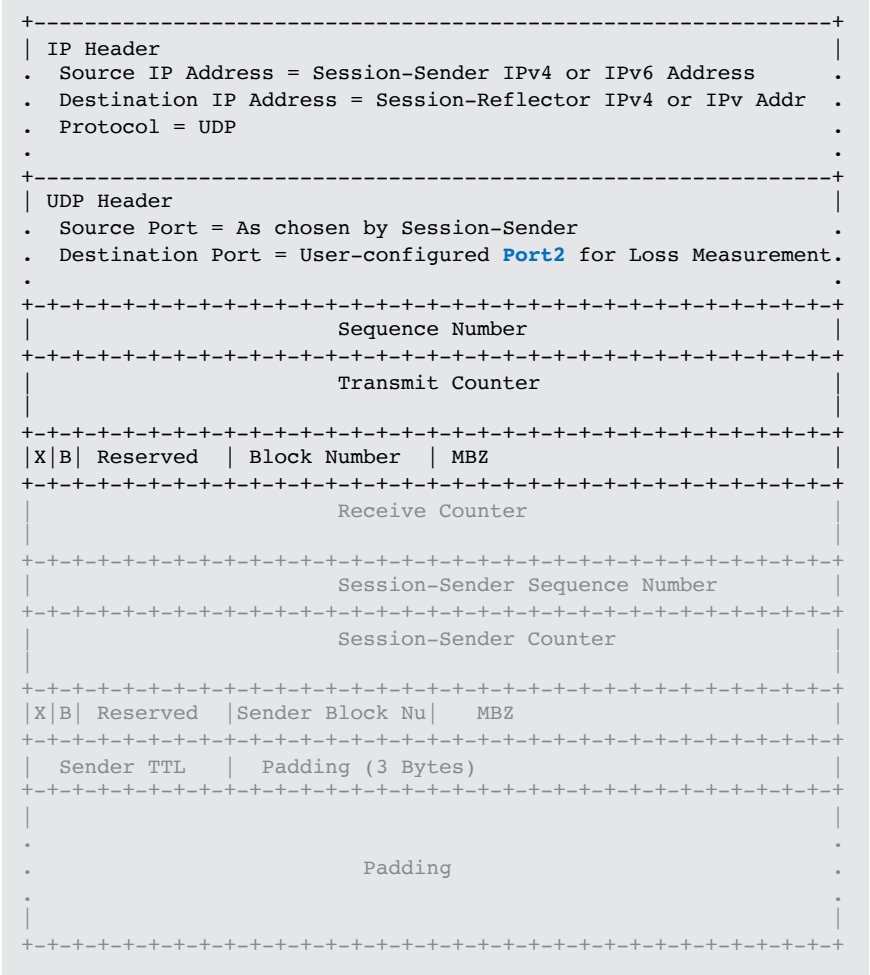


Figure: Control Code in TWAMP Light Query Message

TWAMP Light - Stand-alone Direct-mode LM Message Format

- Stand-alone Direct-mode Loss Measurement (LM) query and response messages defined
  - Hardware efficient counter-stamping
    - Well-known locations for transmit and receive traffic counters
  - Stand-alone LM message, not tied to DM
- Direct-mode LM message format is also defined for authenticated mode
- User-configured destination UDP **Port2** is used for identifying direct-mode LM probe packets
- Does not modify existing TWAMP Light (which is for DM) procedure as different destination UDP port is used for direct-mode LM



Next Steps

- Welcome your comments and suggestions
- Implementation exists
- Request IPPM WG adoption

Thank you