TWAMP Light YANG data model
## draft-mirsky-ippm-twamp-light-yang-02

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IETF-95 April, 2016, Buenos Aires

What is addressed in -02

- YANG data model based on Appendix I of RFC 5073:
  - TWAMP-Light Session-Sender
  - TWAMP-Light Session Reflector
    - Stateless
    - Stateful
  - Clarified range to be used for UDP Port numbers, Source and Destination

SDN-based TWAMP-Light

```
o-------------------------------------------------------------o
|                      Config client                          |
o-------------------------------------------------------------o
       ||                                            ||
       ||              NETCONF/RESTCONF              ||
       ||                                            ||
o-------------------o                    o-------------------o
|  Config server    |                    |  Config server    |
|                   |                    |                   |
+-------------------+                    +-------------------+
| Session-Sender    |  <--- TWAMP-Test ---> | Session-Reflector |
+-------------------+                    +-------------------+
```
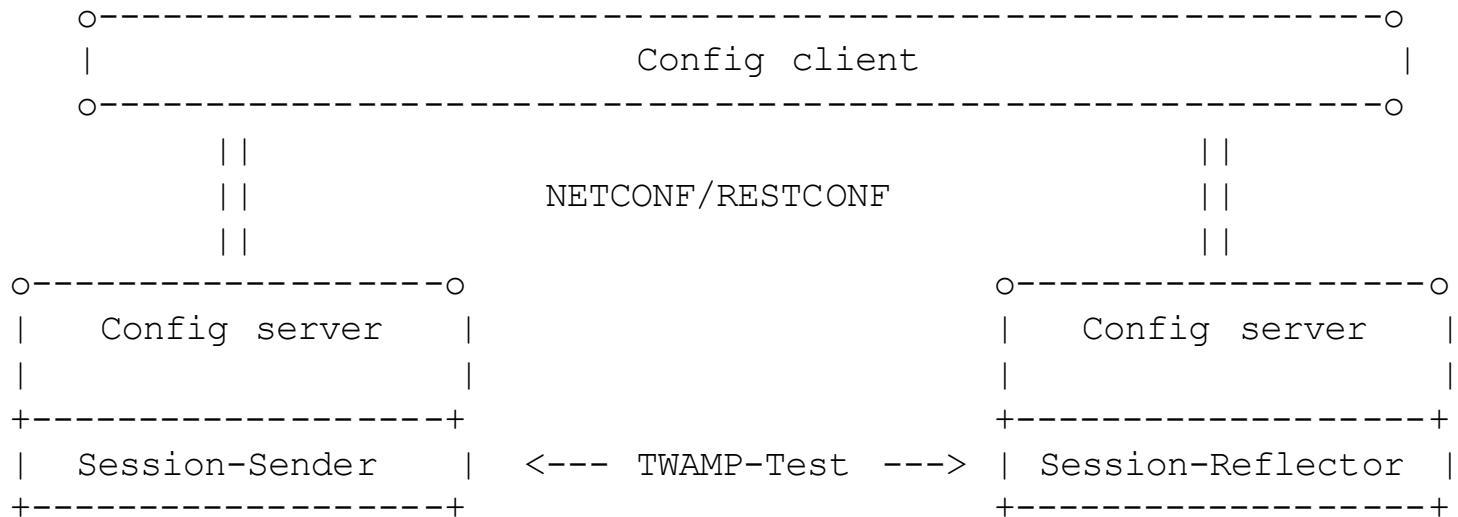
TWAMP Light Reference Model

Session-Sender Light

- Five-tuple key for sessions
  - Destination IP address
  - Destination UDP port number
  - Source IP address
  - Source UDP port number
  - DSCP
- Authentication
- Number of packets to be sent
- Padding size
- Interval
- Operational state
- Maintenance statistics

Session-Reflector Light

- – Stateless or Stateful
- – DSCP Handling: Explicitly Configured or Copy from Received
- – Five-tuple key for sessions
  - • Destination IP address
  - • Destination UDP port number
  - • Source IP address
  - • Source UDP port number
  - • DSCP
- – Authentication
- – Operational state
- – Maintenance statistics
  - • Individual and aggregate

UDP Port numbers

- RFC 4656 notes:

  OWAMP test traffic is hard to detect because it is simply a stream of UDP packets from and to negotiated port numbers, with potentially nothing static in the packets (size is negotiated, as well).

- Hence we conclude that UDP port numbers available for use by OWAMP/TWAMP test packets come only from the Dynamic and/or Private ports range (49152-65535), not from System Ports, nor from User Ports ranges.

Next steps

- Work on open issues
  - Measurement Data Model
  - DSCP and ECN Monitoring
  - Registered UDP port number for Light Reflector
- Comments are always welcome
- Contributions and collaboration