

TWAMP Extension for Direct Loss Measurement

draft-xiao-ippm-twamp-ext-direct-loss-00

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Intention of this draft

- Introduce direct loss measurement to TWAMP
 - TWAMP has been widely used
 - TWAMP supports a kind of “synthetic” loss measurement currently
 - “synthetic” loss measurement isn’t considered accurate enough, more accurate loss measurement requested by the customers
 - Extending TWAMP to support direct loss measurement is the simplest way

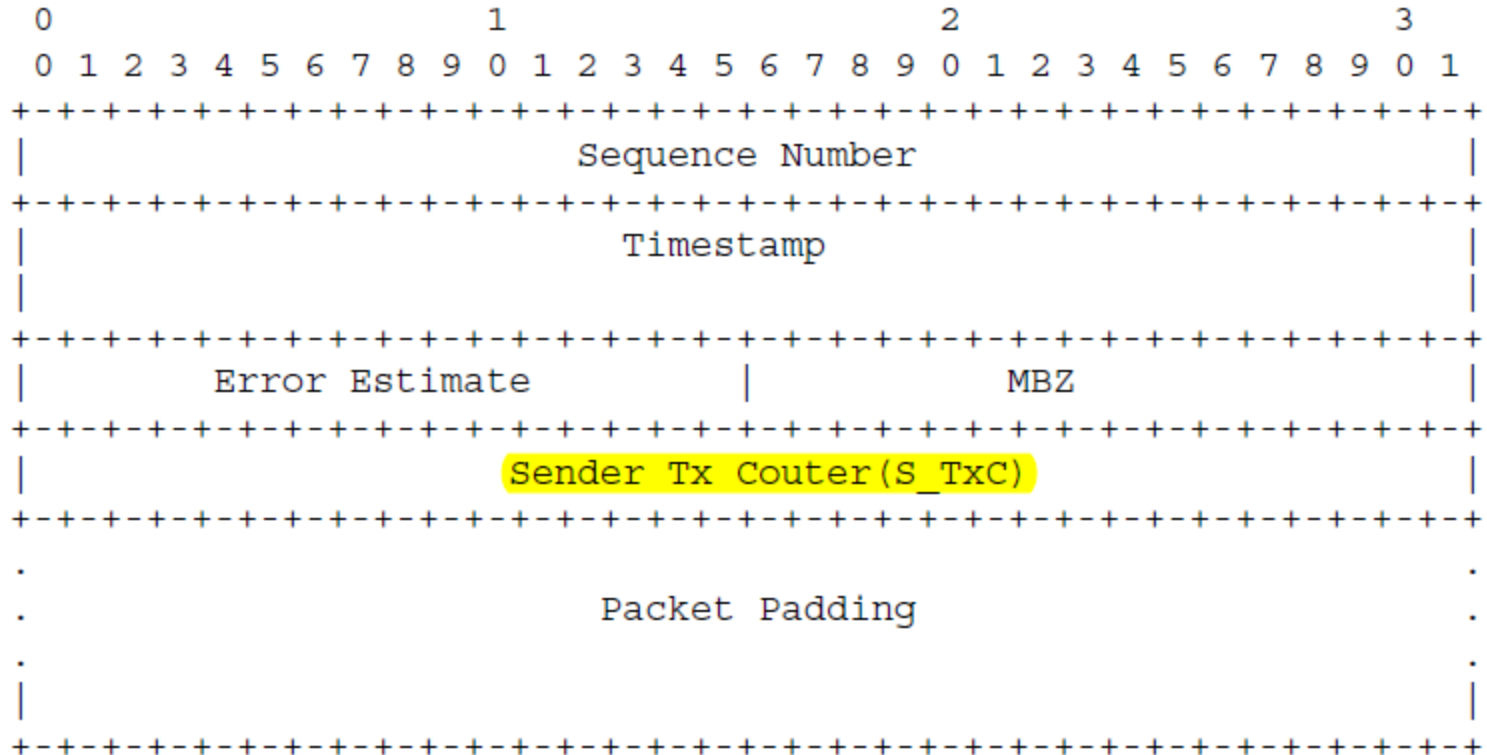
TWAMP-Control Extension

Bit Pos	Description	Semantics Definition	Reference
10	Direct Loss Measurement Capability	Section 2	This Document

- a new Direct Loss Measurement flag is requested from IANA
- Server sets this flag in Server Greeting message and Client sets this flag in Setup Response message
- the new flag can be used in combination with other defined flags and it's backward compatible

TWAMP-Test Extension (1)

Sender Test Packet

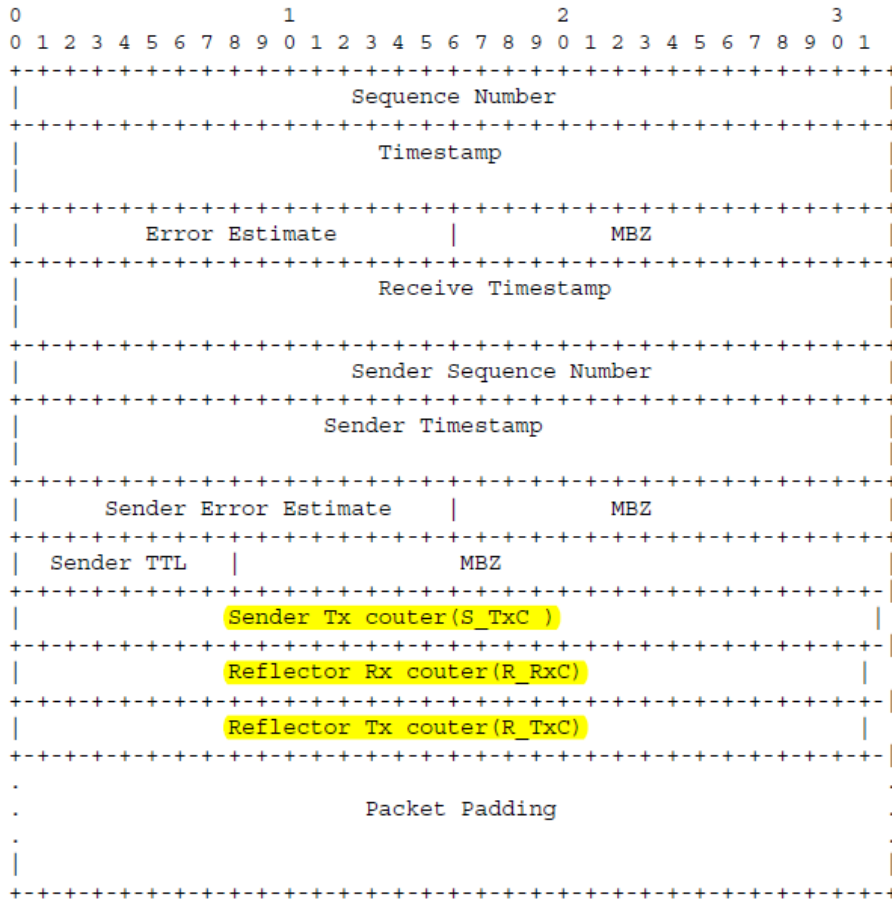


For Unauthenticated Mode

- S_TxC is set to the number of IP packets of the particular monitored flow transmitted towards the Reflector

TWAMP-Test Extension (2)

Reflector Test Packet



- S_TxC is copied from the received Sender Test Packet
- R_RxC is set to the number of IP packets of the particular monitored flow received by the Reflector
- R_TxC is set to the number of IP packets of the particular monitored flow transmitted towards the Sender

For Unauthenticated Mode

TWAMP-Test Extension (3)

Traffic Loss Calculation

- Far-end loss: $F_Loss[n-1,n] = (S_TxC[n] - S_TxC[n-1]) - (R_RxC[n] - R_RxC[n-1])$
- Near-end loss: $N_Loss[n-1,n] = (R_TxC[n] - R_TxC[n-1]) - (S_RxC[n] - S_RxC[n-1])$
- Far-end loss ratio: $F_LossRate[n-1,n] = F_Loss[n-1,n] / (S_TxC[n] - S_TxC[n-1])$
- Near-end loss ratio: $N_LossRate[n-1,n] = N_Loss[n-1,n] / (R_TxC[n] - R_TxC[n-1])$

Next steps

- Ask for more reviews and comments
- Revise this draft to resolve comments
- Ask for WG adoption