TWAMP Extension for Direct Loss Measurement

draft-xiao-ippm-twamp-ext-direct-loss-01

Xiao Min xiao.min2@zte.com.cn
Dou Zhanwei dou.zhanwei@zte.com.cn

IETF-100  Nov 2017, Singapore
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

- 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

- $S_{TxC}$ 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
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