Support of IEEE-1588 time stamp format in TWAMP
draft-mirsky-ippm-time-format-01

Greg Mirsky gregory.mirsky@ericsson.com
Ramanathan Lakshmikanthan ramlak@gmail.com
Suchit Bansal suchit.bansal@ericsson.com
Israel Meilik israel@broadcom.com

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Problem Statement

- OWAMP and TWAMP allow only use of 64 bit-long NTP time stamp format
- IEEE-1588v2 has gained wide support and now is supported by many fast forwarding engines
- Provide ability to use other than NTP time stamp format in backward compatible manner
- This proposal defines OWAMP and TWAMP extensions to enable use of 1588v2 truncated format (64 bit-long)
Updates to Control Protocols

• Use Modes field to advertise and negotiate time stamp format between Server and Control-Client

• Define ONE new flag:
  – PTP Timestamp Capability

• MUST be capable to INTERPRET NTP and PTPv2 time stamp formats

• Timestamp Capability advertisement and negotiation procedures for OWAMP and TWAMP Control protocols defined:
  – Open TCP Connection
  – Server Greeting Message
  – Set-Up-Response
TWAMP Use Case

Control-Client
Session-Sender

Open TCP Connection

Server
Session-Reflector

PTPv2 flag
is set in SGM

Yes

PTPv2 flag
in SGM

No

Sender can
Interpret PTPv2

Yes

Set PTPv2 flag in
Set-Up-Response message

Clear PTPv2 flag in
Set-Up-Response message

Set-Up-Response message
TWAMP Use Case (cont.)

Control-Client Session-Sender

Server Session-Reflector

- PTPv2 flag is set in Set-Up-Response
  - Yes
  - No

Reflector can set NTP format

- Yes
  - Reflector will use NTP format
  - Reflector will use PTPv2 format

- No
  - Close TCP connection

Request-Session

Start-Session

Test packets

Server-Start

Accept-Session

Start-Ack
Update to Test Protocols

- Use Z field in Error Estimate to indicate time stamp format used by the network element:
  - 0 – NTP 64 bit-long format
  - 1 – 1588v2 truncated 64 bit-long format
TWAMP Light Consideration

• Session-Sender and Session-Reflector MAY be informed, e.g. through configuration, of time stamp format to be used, according to their capabilities and rules used to negotiate time stamp format between Server and Control-Client
Next steps

- Welcome comments from the WG
- Asking WG to consider draft adoption