Timing Fidelity Reporting
(v2, 9-September-2015)

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IEEE 802.1 Time-Sensitive Networking TG

Agenda

- IEEE 1588 proposal
- Managed objects
- Mapping to 802.1AS
"Enhanced PTP Integrated Synchronization Path Quality Metrics"
  - Opher Ronen (ADVA Optical Networking) proposal in August 2015
  - https://ieee-sa.centraldesktop.com/1588/file/41972309/

new TLV in management message
  - and maybe appended to announce messages similar to the way the path trace mechanism works

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<th>TLV Type</th>
<th>TLV Length</th>
<th>OUI</th>
<th>OrgSubType</th>
<th>GrandMasterID</th>
<th>GrandMasterTimeInaccuracy</th>
<th>MaxStaticInaccuracy</th>
<th>StdStaticInaccuracy</th>
<th>MaxDynamicInaccuracy</th>
<th>StdDynamicInaccuracy</th>
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Managed objects

• I propose adopting 1588 terms and define local and cumulative timing inaccuracy reporting

• 1588 is NOT done yet, so we may need to make room for a future change to map their way of doing things into the structures
  • I’m sure they are willing to work together, but schedules may not match
Mapping to 802.1AS

• Adopt 1588 management?
  • overlaps/conflicts with “normal” 802/IETF management
  • better, perhaps, to just define as regular managed objects and let SNMP/NETCONF/1722.1/etc. protocols do this

• Path trace
  • append to Announce just like 1588?
    • note that all systems store received path trace info, so managed objects include both local timing inaccuracy and cumulative inaccuracy
  • 1588 path trace doesn’t work for managed time transport paths
    • need something that follows sync tree!
Sync Path Trace

- Proposal ... use a new Signaling TLV
  - looks just like 1588 path trace TLV
    - may be identical, but likely updated
  - ... plus cumulative time inaccuracy TLV
    - ... including “lowest version number” of path to GM
- Accepted only on domain slave port
  - ignored otherwise
- Transmitted on domain master ports
  - when initiated by “management” or when received on domain slave port
  - contains updated path trace and time inaccuracy TLVs

*(send proposal back to 1588)*
That’s it

document history

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