802.1ASdm – PAR & CSD Comments & Responses

IEEE 802.1 TSN

Comments & Responses on Proposed PAR Modification & CSD for IEEE 802.1ASdm Draft Standard for Local and metropolitan area networks—Timing and Synchronization for Time-Sensitive Applications Amendment: Hot Standby

15th March 2023 – Version 1

802.1 PAR Review SC Comments

- PAR 8.1
  - **Comment**: Need to add full standard name in 8.1 for “IEC/IEEE 60802 TSN Profile for Industrial Automation”
  - **Response**: Accepted. Added.
- PAR 5.5
  - **Comment**: Missing space in “1µs” to “1 µs”
  - **Response**: Accepted. Fixed.

802.1 PAR Review SC Comments

- PAR 5.2b
  - **Comment**: “This amendment specifies a Type-Length-Value (TLV) that allows more accurate neighbor rate ratio calculation and more accurate tracking of clock frequency drift. “ This sentence is should not use “more accurate” but just “accurate” (2x). You really are adding the TLV to achieve a 1 µs accuracy over 64 hops….
  - **Comment**: NesCom prefers that we not use Higher/Lower or more accurate without a numeric value.
  - **Response**: Accepted both in principle. Changed text to read “This amendment specifies a Type-Length-Value (TLV) to enable 1 µs time synchronization accuracy over 100 network hops.” 60802 has a requirement of 1 µs time synchronization accuracy over 64 network hops and a goal of 100 network hops if possible. Extensive simulations have demonstrated that the goal of 100 network hops is achievable.

802.1 PAR Review SC Comments

- CSD 1.2.3
  - **Comment**: Remove the “more” on accurate…either you are accurate or not. You could say “Improved accuracy”.
  - **Response**: Accept in Principle. “Improved” is also a relative term, so avoiding that as well. Changed the addition to 1.2.1b (removing “improve”) to…
    “These requirements include 1 µs time synchronization accuracy over 64 network hops while using existing silicon and low-cost crystal oscillators, i.e., not, for example, temperature compensated crystal oscillators. A new TLV will enable calculation of Neighbor Rate Ratio using the Sync mechanism and provide additional information that is used when tracking Rate Ratio to compensate for time synchronization errors due to clock frequency drift, both of which are required to achieve the time synchronization goal. ”
    …and the addition to 1.2.3 to…
    “There is no other IEEE standard or project that is defining a solution for IEEE Std 802.1AS to enable calculation of Neighbor Rate Ratio using the Sync mechanism or provide the additional information used when tracking Rate Ratio.”

802.3 Comments

- CSD Subtitle
  - **Comment**: The Subtitle doesn't agree with the PAR modification to the title. It should be aligned with the modified PAR.
  - **Response**: Accepted. Changed "…Amendment: Hot Standby" to "…Amendment: Hot Standby and Clock Drift Error Tracking"