SPMD Study Group Objectives - Strawman
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Goals from CFI

1. Enhance 10BASE-T1S multidrop functionality and PLCA
2. Increase the maximum reach to *75 m*
3. Increase the maximum station count to *32*
4. Define a plug-and-play power distribution technique
5. Define improvements for energy efficiency
6. Support the Time Synchronization Service Interface (TSSI) to enable PTP on multidrop
7. Improve Time Sensitive Networking(TSN) operation compared to 802.3cg

Objectives

1. Define performance characteristics of a mixing segment with a single balanced pair of conductors supporting up to at least 32 nodes, for up to at least 75 m reach
2. Add support for the new mixing segment to 10BASE-T1S
3. Maintain a bit error ratio (BER) at the MAC/PLS service interface of less than or equal to 10^{-10} on the mixing segment
4. Specify improvements for Energy Efficient Ethernet
5. Specify an optional plug-and-play power distribution technique over the mixing segment
6. Add support for increased node count to the PLCA RS.
7. Support the optional Time Synchronization Service Interface (TSSI)
8. Specify optional improvements for Time Sensitive Networking(TSN) operation over the mixing segment (with/without PLCA)

Other topics

1. Should we define a PLCA node ID allocation method
2. MDI for multidrop
   a. Should we choose a single connector
      i. Choose one of the point-to-point options or something different?
   b. Topology
      i. T-piece & spur – 2 pin connector to system
      ii. "In and out" – options include:
         - 2x2 pin connectors with internal interconnect
         - 1x4 pin connector into system with internal interconnect
         - 1x2 pin connector into system with interconnect in connector
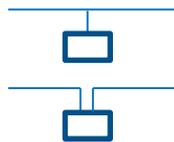
Additional Topics for Objectives

- Mandate connector
  - Optional second pass-through mechanical interface
- PD polarity insensitivity
- PD and/or DTE hot swap (e.g., hot remove/add etc)
  - Suggests T topology is mandated?
  - Needs definition e.g., replace vs add new
- Support PSE in any location
- Support a maximum stub length of TBD
- Support plug & play operation (power and data)
- Do not preclude interoperability with Clause 147 multi-drop
- Do not preclude multiple PSEs on the mixing segment

What next?

- Gather use cases
- Discuss on the SPMD reflector
- Come to Waikoloa with inputs

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Thank You!