Distinct Identity for Clauses 201 and 202 & Suggested Objectives

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- <your name here>

Distinct identity: The Rules

- Distinct identity is an IEEE 802 & IEEE 802.3 matter
  - Doesn’t exist above the 802 Operations Manual (OpsMan)
- The IEEE 802 OpsMan (14.2.3) requires:
  - Each proposed IEEE 802 LMSC standard shall provide evidence of a distinct identity. Identify standards and standards projects with similar scopes and for each one describe why the proposed project is substantially different. (IEEE 802 Ops Manual at 14.2.3)
- The IEEE 802.3 OpsMan (4.5.1) further requires:
  - Substantially different from other IEEE 802.3 specifications/solutions.

Path to Success

- The “Path to Success” is to make compliance with the letter and the spirit of the rules clear and documented
  - Stopping arguments before they start
- Objectives are not required, but…
  - Since they are voted on and visible to the whole working group, Objectives are a good way to document & make clear, getting agreement of the Working Group before an argument
  - Statements in Task Force presentations are less useful – both from visibility and because presentations represent the viewpoints of individuals, not the group

What matters & doesn’t in Distinct Identity

- What doesn’t matter: How the technology works – that’s a way of accomplishing the above
- Easy to explain things that matter: (for a specific PHY type)
  - Ethernet speeds supported
  - Media (including parameters like length or lanes)
  - Key features and functionality
    - Including support for major functional options
- Our mission: to capture just what makes our two clauses different to someone choosing a PHY type

What makes Clauses 201 and 202 different?

- They appeal to users with different relative values
  - Cl 201 appeals to implementers and users who believe:
    - A pair of *complementary* PHYs provides value in optimizing links that will have a fixed directionality (e.g., camera links)
      - The high-speed TX/low-speed RX & the low-speed TX/high-speed RX are different, but matched PHY types
    - Commonality with existing 802.3 PHY types supporting concurrent transmission is valuable, particularly with support of AutoNegotiation
  - Cl 202 appeals to implementers and users who believe: (paraphrasing gorshe_3dm_01_0326.pdf)
    - Port reversibility is valuable
    - Supporting multiple speeds on a single PHY type is desirable
    - Commonality in having the same PHY type on both ends of the link provides value

Proposal

- Consider replacing our existing PHY objectives with objectives – one (set) for clause 201 and one (set) for clause 202

Existing PHY objectives (set of 6) – (to be replaced)

- Define an electrical PHY to support up to 2.5 Gbps data rate point-to-point operation in one direction and up to 100 Mbps point-to-point operation in the other direction over the … link segment.
- Define an electrical PHY to support up to 5 Gbps data rate point-to-point operation in one direction and up to 100 Mbps point-to-point operation in the other direction over the … link segment.
- Define an electrical PHY to support up to 10 Gbps data rate point-to-point operation in one direction and up to 100 Mbps point-to-point operation in the other direction over the … link segment.

Suggested Objectives Set for Cl 201

- 6 objectives (one for each rate & link segment) of the form:
  - Define an electrical PHY optimized for end-node cameras supporting ***(2.5,5,10)*** Gbps point-to-point transmission and 100 Mbps point-to-point reception, and a complementary PHY supporting ***(2.5,5,10)*** Gbps reception and 100 Mbps transmission, with concurrent transmission in both directions, over the ***(balanced pair, coax)*** link segment

Suggested Objective Set for CI 202

- From gorshe_3dm_01_0326.pdf with minor wordsmithing and distinct speeds to be parallel.
- 2 objectives (one per link segment) of the form:
  - Define an electrical PHY to support 2.5 Gbps, 5 Gbps, or 10 Gbps point-to-point transmission or reception in one direction and 100 Mbps point-to-point reception or transmission in the other direction with the direction of asymmetry and high-speed rate determined at link startup over the ***(balanced pair, coax)*** link segment.

Potential Objective on Auto-Negotiation

- This is not proposed at this time, but something to consider for objectives, if we want to add an objective for only the Clause 201 PHY to support Clause 98 (or clause 98-like) auto-negotiation

- Assuming only Cl 201 supports Cl 98 auto-negotiation:
  - Support for optional Auto Negotiation based on Clause 98 on the complementary PHY set