

Possible Objective Text

IEEE 802.3

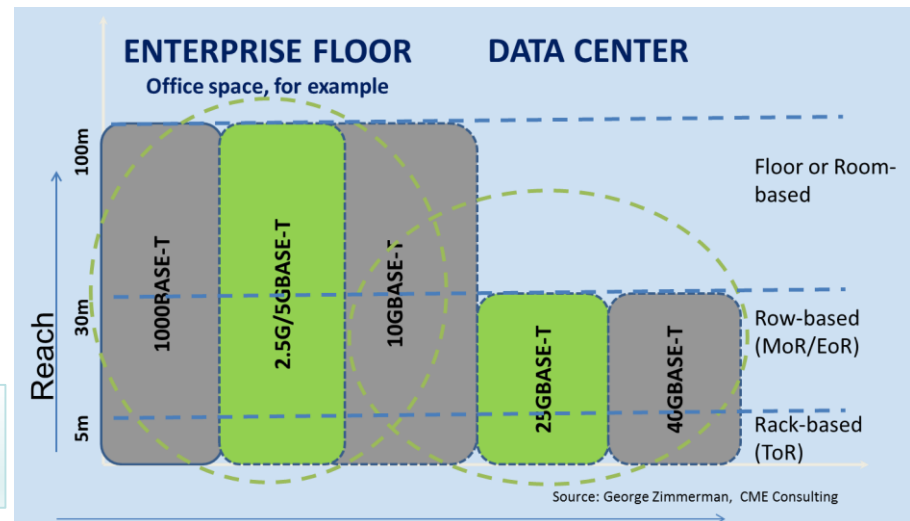
MultiGigabit Automotive Ethernet PHY
Study Group Ad Hoc

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Where we left things in January

- Lack of consensus on 10Gb/s media
- Talk was of adding additional rates
 - A reminder from 10GBASE-T & 802.3bz
 - ***There is a lot of room between 1Gb/s and 10Gb/s!***
 - See: [The Spaces of BASE-T \(EA Whitepaper\)](#)

History lesson: If we leave that space blank, we will be back!



Proposed Change to “Environment” Objective

- Modify the objective below as shown:
 - Support operation ~~at 10Gb/s~~ in automotive environments (e.g., EMC, temperature) ~~over single pair shielded balanced copper cabling.~~
- This would allow a single objective for multiple rates, isolating the rates to the MAC and PHY objectives
- This would isolate media choices to the “link segment” objectives

Adding 2.5 Gb/s

- Seems to be consensus for this rate, and we should be able to come to consensus on a PHY/link segment objective.
- Add the following objective:
 - Support data rates of 2.5 Gb/s at the MAC/PLS service interface.
- This is independent of what media/distance/PHY spec we come up with

2.5 Gb/s PHY & Media

- Feasibility of 2.5Gb/s on at least some media has been shown under the 10Gb/s feasibility in Huntington Beach.
 - There is interest and plausibility of this working on UTP, but not enough to restrict the objective to UTP
 - Proposal was for 4 connectors
 - Issue with list of example cable types – should we spell out?
- Add the following objective:
 - Define the performance characteristics of an automotive link segment and an **electrical** PHY to support 2.5 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling (e.g., UTP, STQ, STP, SPP, Coax, or Twinax).

10 Gb/s PHY & Media

- Feasibility of 10 Gb/s on shielded media has been shown under the 10Gb/s feasibility in Huntington Beach.
 - Results were followed up with some shielded media results
 - Task Force to decide if shielding was necessary
 - Expect additional feasibility presentations for UTP in March
 - Desire was to include unbalanced media types for automotive
 - Contributions support that either type have been presented
 - There is also a question on the # of inline connectors
 - Reflector discussion indicated 4 connectors
- Add the following objective:
 - Define the performance characteristics of an automotive link segment and an **electrical** PHY to support 10 Gb/s point-to-point operation over this link segment supporting up to **four** inline connectors for at least 15m on at least one type of **shielded** automotive cabling (~~e.g., STQ, STP, SPP, Coax, or Twinax~~).

5Gb/s Objectives

- Add 5Gb/s to the suite to complete it:
 - Identical approach to 10G – issues are the same
 - Maintain flexibility in cabling decisions
- Add the following objectives:
 - Support data rates of 5 Gb/s at the MAC/PLS service interface.
 - Define the performance characteristics of an automotive link segment and an **electrical** PHY to support 5 Gb/s point-to-point operation over this link segment supporting up to **four** inline connectors for at least 15m on at least one type of **shielded** automotive cabling (~~e.g., STQ, STP, SPP, Coax, or Twinax~~).

Possible 10Gb/s Optical Objective

- Define the performance characteristics of an automotive link segment and an optical PHY to support 10 Gb/s point-to-point operation over this link segment supporting up to $\langle N \rangle$ inline connectors and up to at least 15m on automotive fiber optic cabling
- Need somehow to capture how this is not 10GBASE-SR...
 - For example, if you already knew the wavelength and there really was no choice involved because of the physics, the simplest way would be to say “an XXXnm optical PHY...”