Nomenclature

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Nomenclature

- Goal: Agree on the nomenclature to enable effective communication

IEEE-SA Standards Style Manual Guidance

- Guidance from IEEE-SA is as follows
- 10.6.3:
  - “Each definition should be a brief, self-contained description of the term in question and shall not contain any other information, such as requirements or elaborative text. The term should not be used in its own definition.”
- 10.7
  - “Acronyms and abbreviations can be used to save time and space in the document.”
- B.1
  - “a) New terms and definitions included in IEEE standards should be written in plain English using clear and concise descriptions. Terms themselves should not be used in their own definitions.”
  - “b) Needless customization should be avoided so that definitions have as broad an application as appropriate. Definitions that are too specific should be avoided.”
  - “c) New definitions that serve to add a new definition to an existing term(s) of the same name should be different enough from the other term(s) so as to justify the addition. Having more than two or three acceptable definitions for any term is discouraged.”

Easy First!

- **Prefix:**
  - "The alpha-numeric prefix 50GBASE in the port type (e.g. 50GBASE-R) represents a family of Physical Layer devices operating at a speed of 50 Gb/s."
- **BASE-R:**
  - Update BASE-R in 802.3-2015 to include the 50 Gb/s PCS, if necessary:
  - Leveraging text from P802.3bs D1.3: "BASE-R: An IEEE 802.3 family of Physical Layer devices using the 64B/66B encoding defined in Clause 49, Clause 82, Clause 107, ~~or~~ Clause 119, or Clause TBD. (See IEEE Std 802.3, Clause 49, Clause 82, Clause 107, ~~or~~ Clause 119, or Clause TBD.)"
- **50GBASE:**
  - "50GBASE: A family of Physical Layer entities for 50 Gb/s operation. (See IEEE Std 802.3, Clause TBD.)"

50GBASE-R

- Propose:
- “50GBASE-R: An IEEE 802.3 physical coding sublayer for one lane 50 Gb/s operation. (See IEEE Std 802.3, Clause TBD)”

- P802.3bs will address 200GBASE-R
- 100GBASE-R already points to Clause 80. No change necessary.

Backplane

- “P” was used for PAM4 in 100GBASE-KP4 to distinguish from NRZ 100GBASE-KR4. I assume that the Task Force loves “R” more than “P”
- Propose this:
  - “50GBASE-KR: IEEE 802.3 Physical Layer specification for 50 Gb/s using 50GBASE-R encoding over one lane of an electrical backplane. (See IEEE Std 802.3, Clause TBD)”
  - “200GBASE-KR4: IEEE 802.3 Physical Layer specification for 200 Gb/s using 200GBASE-R encoding over four lanes of an electrical backplane. (See IEEE Std 802.3, Clause TBD)”
- The 100G backplane case depends on the PCS selection
  - “100GBASE-KR2: IEEE 802.3 Physical Layer specification for 100 Gb/s using 100GBASE-R encoding over two lanes of an electrical backplane. (See IEEE Std 802.3, Clause TBD)”

Copper Cables

Propose:

- “50GBASE-CR: IEEE 802.3 Physical Layer specification for 50 Gb/s using 50GBASE-R encoding over one lane of shielded balanced copper cabling. (See IEEE Std 802.3, Clause TBD)”
- “200GBASE-CR4: IEEE 802.3 Physical Layer specification for 200 Gb/s using 200GBASE-R encoding over four lanes of shielded balanced copper cabling. (See IEEE Std 802.3, Clause TBD)”

- “100GBASE-CR2: IEEE 802.3 Physical Layer specification for 100 Gb/s using 100GBASE-R encoding over two lanes of shielded balanced copper cabling. (See IEEE Std 802.3, Clause TBD)”

MMF

- Using the definition in P802.3by and P802.3bs as a baseline, propose this:
- “50GBASE-SR: IEEE 802.3 Physical Layer specification for 50 Gb/s using 50GBASE-R encoding over a multimode fiber. (See IEEE Std 802.3, Clause TBD)”
- “200GBASE-SR4: IEEE 802.3 Physical Layer specification for 200 Gb/s using 200GBASE-R encoding over four lanes of multimode fiber. (See IEEE Std 802.3, Clause TBD.)”

- “100GBASE-SR2: IEEE 802.3 Physical Layer specification for 100 Gb/s using 100GBASE-R encoding over four lanes of multimode fiber. (See IEEE Std 802.3, Clause TBD.)”

AUI/MII Background

- The use of roman numerals to identify the MAC rates associated with various interfaces worked well when the roman numerals were simple and the number of such identified interfaces were few.
- P802.3by adopted Arabic numeral nomenclature for the MII and AUI (i.e. 25GMII and 25GAUI) in January 2015 for enhanced clarity in communication
- Looking into the future, roman numerals become a bigger problem:
  - 800G = DCCC AUI
  - 1T = MAUI - already taken, so is it DDAUI?
- In Macau, in reference to http://www.ieee802.org/3/50G/public/Mar16/lusted_50GE_NGOATH_01_0316.pdf
  - Kent Lusted asked for an indication for support of the proposed nomenclature. Chair asked for a show of hands of participants in favor of using Arabic numerals. Chair asked for a show a hands of participants wishing to keep the Roman numerals. Chair ruled that there was significant majority of support to use Arabic numerals. (March 2016 minutes)

Attachment Unit Interface

- “50 Gigabit Attachment Unit Interface (50GAUI): A physical instantiation of the PMA service interface to extend the connection between 50 Gb/s capable PMAs over one lane, used for chip-to-chip or chip-to-module interconnections. (See IEEE Std 802.3, Annex TBD).”
- “200 Gigabit Attachment Unit Interface (200GAUI): A physical instantiation of the PMA service interface to extend the connection between 200 Gb/s capable PMAs over four lanes, used for chip-to-chip or chip-to-module interconnections. (See IEEE Std 802.3, Annex TBD).”

MII

- “50 Gigabit Media Independent Interface (50GMII): The interface between the Reconciliation Sublayer (RS) and the Physical Coding Sublayer (PCS) for 50 Gb/s operation. (See IEEE Std 802.3, Clause TBD)”
- “200 Gigabit Media Independent Interface (200GMII): The interface between the Reconciliation Sublayer (RS) and the Physical Coding Sublayer (PCS) for 200 Gb/s operation. (See IEEE Std 802.3, Clause TBD)”

Abbreviations List

- In Section 1.5, add:
  - 50GMII 50 Gigabit Media Independent Interface
  - 50GAUI 50 Gigabit Attachment Unit Interface
  - 200GAUI 200 Gigabit Attachment Unit Interface

THANKS!