

Nomenclature Consensus Building

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Nomenclature

- Goal: Agree on the nomenclature to enable effective communication
- Plan: Start with generic references with respect to PCS and FEC because it just references 25GBASE-R encoding. Therefore, define 25GBASE-R encoding after more consensus building.

Clause	Changes
X	Introduction to 25 Gb/s networks
X+1	25G RS + XXVMII
X+2	25G PCS ***
X+3	25G FEC
X+4	25G PMA
X+5	25GBASE-CR PMD (copper cable) ***
X+6	25GBASE-KR PMD (backplane)
X+7	25GBASE-SR PMD (MMF optical)
Annex (X+4)A	XXVAUI chip-to-chip
Annex (X+4)B	XXVAUI chip-to-module
Annex (X+5)A	25GBASE-CR TP parameters and channel characteristics
Annex (X+5)B	25GBASE-CR cable/host use cases ***
	*** indicates Clauses/Annexes that need significant work

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 25GBASE in the port type (e.g. 25GBASE-R) represents a family of Physical Layer devices operating at a speed of 25 Gb/s.”

- **BASE-R:**

- Update BASE-R in 802.3-2012 to include the 25 Gb/s PCS, if necessary:
- “BASE-R: An IEEE 802.3 family of Physical Layer devices using the 64B/66B encoding defined in Clause 49, ~~or~~ Clause 82, **or Clause x+2**. (See IEEE Std 802.3, Clause 49, ~~and~~ Clause 82, **and Clause X+2**.)”

Backplane

- Using the definition in 802.3bj (for Clause 93) and 802.3-2012 as a baseline, propose this:
- “25GBASE-KR: IEEE 802.3 Physical Layer specification for 25 Gb/s using 25GBASE-R encoding over one lane of an electrical backplane. (See IEEE Std 802.3, Clause x+6)”

MMF

- Using the definition in 802.3bm as a baseline, propose this:
- “25GBASE-SR: IEEE 802.3 Physical Layer specification for 25 Gb/s using 25GBASE-R encoding over a duplex multimode fiber. (See IEEE Std 802.3, Clause x+7)”

25GBASE-R

- Propose:
- “25GBASE-R: An IEEE 802.3 physical coding sublayer for one lane 25 Gb/s operation. (See IEEE Std 802.3, Clause x+2.)”

MII and AUI

For the MII and AUI interfaces,

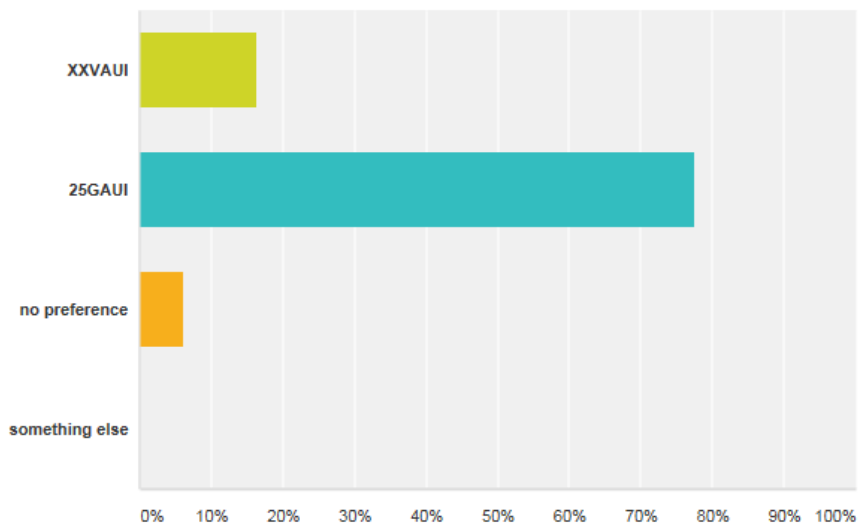
- keep the Roman numeral designation. XXVGMII and XXVAUI
 - It is not the most elegant, but it is consistent with 10G, 40G, 100G and 400G.
- Do something different: i.e., 25G-MII and 25G-AUI

The Task Force will need to make the decision.

AUI & MII Survey Results

For the AUI term in P802.3by, I prefer to write in the specification

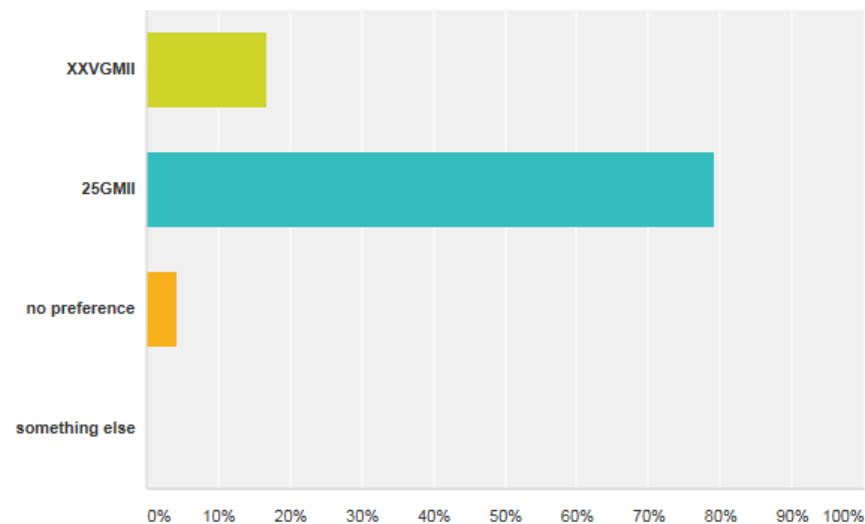
Answered: 49 Skipped: 0



Answer Choices	Responses
XXVAUI	16.33% 8
25GAUI	77.55% 38
no preference	6.12% 3
something else	0.00% 0
Total	49

For the MII term in P802.3by, I prefer to write in the specification

Answered: 48 Skipped: 1



Answer Choices	Responses
XXVGMII	16.67% 8
25GMII	79.17% 38
no preference	4.17% 2
something else	0.00% 0
Total	48

Attachment Unit Interface

- “25 Gigabit Attachment Unit Interface (**XXVAUI**): A physical instantiation of the PMA service interface to extend the connection between 25 Gb/s capable PMAs over one lane, used for chip-to-chip or chip-to-module interconnections. (See IEEE Std 802.3, Annex (X+4)A and Annex (X+4)B).”

OR

- “25 Gigabit Attachment Unit Interface (**25G-AUI**): A physical instantiation of the PMA service interface to extend the connection between 25 Gb/s capable PMAs over one lane, used for chip-to-chip or chip-to-module interconnections. (See IEEE Std 802.3, Annex (X+4)A and Annex (X+4)B).”

MII

- “25 Gigabit Media Independent Interface (**XXVGMII**): The interface between the Reconciliation Sublayer (RS) and the Physical Coding Sublayer (PCS) for 25Gb/s operation. (See IEEE Std 802.3, Clause x+1.)”

OR

- “25 Gigabit Media Independent Interface (**25G-MII**): The interface between the Reconciliation Sublayer (RS) and the Physical Coding Sublayer (PCS) for 25Gb/s operation. (See IEEE Std 802.3, Clause x+1.)”

Copper Cables

- *For reference, here are 40G-CR4 and 100G-CR4:*
 - *“40GBASE-CR4: IEEE 802.3 Physical Layer specification for 40 Gb/s using 40GBASE-R encoding over four lanes of shielded balanced copper cabling, with reach up to at least 7 m. (See IEEE Std 802.3, Clause 85.)”*
 - *“100GBASE-CR4: IEEE 802.3 Physical Layer specification for 100 Gb/s using 100GBASE-R encoding and Clause 91 RS-FEC over four lanes of shielded balanced copper cabling, with reach up to at least 5 m. (See IEEE Std 802.3, Clause 92.)”*

Copper Cables - Simple

Propose:

- “25GBASE-CR: IEEE 802.3 Physical Layer specification for 25 Gb/s using 25GBASE-R encoding over one lane of shielded balanced copper cabling. (See IEEE Std 802.3, Clause x+5.)”

Abbreviations List

- In Section 1.5, add:
 - XXVGMII or 25G-MII 25 Gigabit Media Independent Interface
 - XXVAUI or 25G-AUI 25 Gigabit Attachment Unit Interface
 - C2C Chip-to-chip
 - C2M Chip-to-module

THANKS!