

Nomenclature Debate

IEEE P802.3bs Task Force

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Introduction

- This is a debate of preference!
- Proponents stated motivation to change the name-
 - Clarity of both written and verbal communication
 - Future Proofing

What is the debate?

- The “debate” is not to change from Roman to Arabic nomenclature –
- The ACTUAL “debate” is to change terms
 - Example: “CDAUI” to “400GAUI”

So what?

- Terms are defined in 802.3 – not numbers

Terminology

- Terms are defined in “1.4 Definitions”
- For example –
 - Per P802.3by D3.2: **1.4.77a 25 Gigabit Attachment Unit Interface (25GAUI)**: 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 109A and Annex 109B.)
 - Per P802.3bs D1.5: **1.4.72h 400 Gb/s Attachment Unit Interface (CDAUI-n)**: A physical instantiation of the PMA service interface to extend the connection between 400 Gb/s capable PMAs over n lanes, used for chip-to-chip or chip-to-module interconnections. Two widths of CDAUI-n are defined: a sixteen-lane version (CDAUI-16), and an eight-lane version (CDAUI-8). (See IEEE Std 802.3, Annex 120B and Annex 120C for CDAUI-16, or Annex 120D and Annex 120E for CDAUI-8.)

Outside of IEEE

ETHERNET INTERFACES AND NOMENCLATURE

	Electrical Interface	Backplane	Twinax Cable	Twisted Pairs	MMF	Parallel SMF	2km SMF	10km SMF	40km SMF
10BASE-				T					
100BASE-				TX	FX			LX	
1000BASE-		KX	CX	T	SX			LX	
2.5GBASE-		KX		T					
5GBASE-		KR		T					
10GBASE-	SFI, XFI	KX4, KR	CR	T	SR			LR	ER
25GBASE-	25GAUI	KR	CR	T	SR			LR	ER
40GBASE-	XLAUI	KR4	CR4	T	SR4		FR	LR4	ER4
50GBASE-	50GAUI (-??)	KR	CR		SR		FR	LR	
100GBASE-	CAUI10 CAUI4 CAUI-2	KR4, KR2	CR10, CR4, CR2		SR10 SR4 SR2	PSM4	10X10 CWDM4 CLR4	LR4 10X10	ER4 10X10
200GBASE-	200GAUI-4	KR4	SR4		SR4		FR4	LR4	
400GBASE-	CDAUI-16 CDAUI-8				SR16	DR4	FR8	LR8	

Gray Text = IEEE Standard Red Text = In Standardization Green Text = Under consideration in IEEE
 Blue Text = Non-IEEE standard but complies to IEEE electrical interfaces

- Terminology will always be explained or defined in such literature
- Using Arabic numbers will not negate the need to define the name of the interface

Future Proofing

- It was stated
 - Future proofing
 - Set the precedent for the future rates which may not have “easy” Roman numeral terms
 - 25 Gb/s Ethernet faced this challenge already (XXVAUI did not impress)
- This claim is misleading
 - A “precedent” to use Arabic numbers instead of Roman numbers has already been set as noted above
 - Every Task Force makes the decisions about its own project, i.e. a future higher speed task force will determine the nomenclature used for a future higher speed

Moving Forward

- Given recent start of 200GbE - Minimal impact to the choice to use “CCAUI” or “200Gxxx” at this point
- 802.3 May Interim Task Force Straw Poll #3 –
 - A consistent nomenclature (e.g. CCMII / CDMII or 200GMII / 400GMII, CCAUI / CDAUI or 200GAUI / 400GAUI, etc) should be selected for implementation in IEEE P802.3bs. Results (y/n/a): 55/1/0
- What is lost if the Task Force moves away from current 400GbE terminology?

Consequences

- People reviewing development of the interface will not find prior material using “400GAUI”
- History Perspective – “CDAUI”
 - The industry anticipated the use of CDAUI prior to its adoption - first use found during SG / TF Plenary / Interim meetings was May 2013 – 1st Study Group Meeting
 - Over course of SG / TF F2F meetings – 1432 Instances in 207 documents

Consequences of “400GAUI”

- Market confusion caused by familiarity with “CDAUI”
 - Industry articles
 - Presentations to industry trade shows / conferences
 - Industry videos
 - Press releases
 - Industry newsletters
 - Industry analysts updates
- Company literature will need updated (data sheets, product overviews, presentations, roadmaps)
- Other industry organizations use of CDAUI for development of related specifications