

50GAUI and 100GAUI C2C and C2M Baseline Proposals for 50G and 100G Ethernets

Mike Peng Li, Adee Ran
Intel Corporation

Richard Mellitz
Samtec

Ali Ghiasi
Ghiasi Quantum LLC

For IEEE 802.3cd

Background and Motivation (I)

- In May/Whistler meeting, we have passed the following motion:

Motion #10: 3:31 p.m.

Move to adopt li_3cd_01_0516 as the baseline for 50GAUI and CAUI-2 chip-to-chip and chip-to-module electrical I/O interfaces

- M: Mike Li
- S: Gary Nicholl
- Technical ($\geq 75\%$),
- Y: 75 N: 0 A: 7
- Results: passes 3:42 p.m.

Chair clarified that baseline means that the technical details are sufficient to address an objective in the Task Force. Chair noted that “basis” used in an earlier motion indicates the general direction of the Task Force.

- We did not adopt 50GAUI-2 and 100GAUI-4 baselines due to FEC lane/distribution options were not settled then

Background and Motivation (II)

- We have use case demand and complete PCS/FEC/PMA architecture baseline proposal (see [nicholl_3cd_01_0716.pdf](#)) now which calls for additional 50GAUI and 100GAUI baseline proposals.

50GAUI-2 C2C and C2M Baseline Proposals for 50G Ethernet

- 50GAUI-2 (2x26.5625 Gbps, NRZ) C2C and C2M, to be consistent with the latest CDAUI-16 but with 2 rather than 16 lanes
- 50GAUI-2 (2x25.78125 Gbps, NRZ) C2C and C2M, to be consistent with the latest CAUI-4 (as defined in Annex 83D and 83E) but with 2 rather than 4 lanes

100GAUI-4 C2C and C2M Baseline Proposal for 100G Ethernet

- 100GAUI-4 (4x26.5625 Gbps, NRZ) C2C and C2M, to be consistent with the latest CDAUI-16 but with 4 rather than 16 lanes

Summary: 50GAUIs C2C and C2M

Baseline Proposals for 50G Ethernet

- 50GAUI-1 (1x53.125 Gbps, PAM4) C2C and C2M, to be consistent with the latest CDAUI-8 but with an 8th of the number of lanes
- 50GAUI-2 (2x26.5625 Gbps, NRZ) C2C and C2M, to be consistent with the latest CDAUI-16 but with 2 rather than 16 lanes
- 50GAUI-2 (2x25.78125 Gbps, NRZ) C2C and C2M, to be consistent with the latest CAUI-4 (as defined in Annex 83D and 83E) but with 2 rather than 4 lanes



Adopted



To be adopted



Added for clarity

Summary: 100GAUIs C2C and C2M

Baseline Proposals for 100G Ethernet

- CAUI-2 (2x53.125 Gbps, PAM4) C2C and C2M, to be consistent with the latest CDAUI-8 but with a 4th of the number of lanes
- 100GAUI-4 (4x26.5625 Gbps, NRZ) C2C and C2M, to be consistent with the latest CDAUI-16 but with 4 rather than 16 lanes
- 100GAUI-4 (4x25.78125 Gbps, NRZ) C2C and C2M, to be the same as the latest CAUI-4 (as defined in Annex 83D and 83E)



Adopted



To be adopted



Added for clarity