Baseline proposal for 1.6TAUI-16 using 100 Gbps/lane signaling

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v1p0

Contributors & Supporters

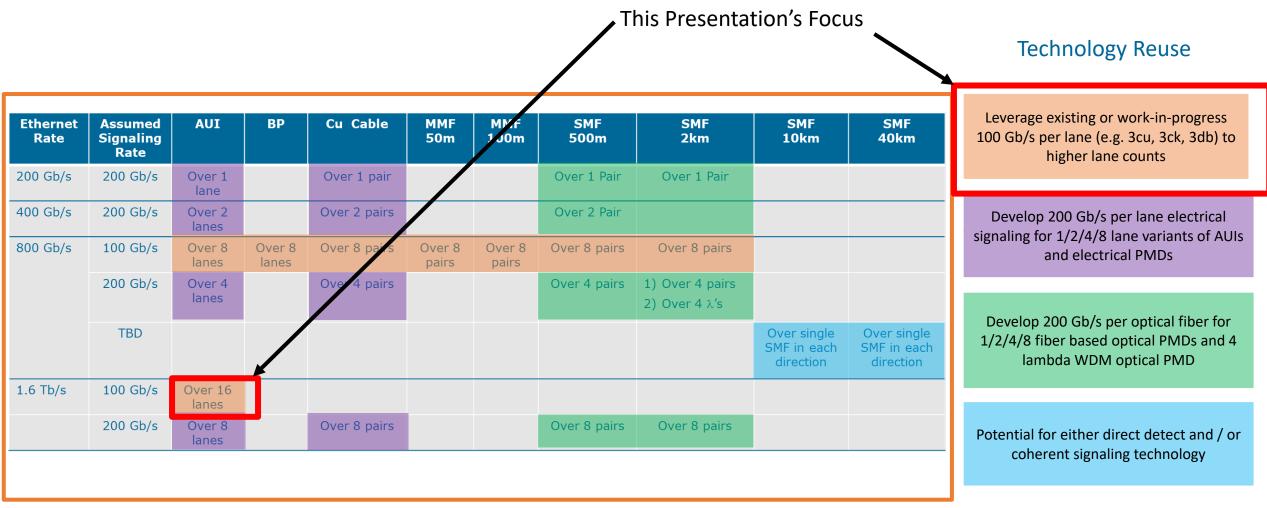
Contributors

• Matt Brown, Huawei Canada

Supporters

- Rick Rabinovich, Keysight Technologies
- Paul Brooks, Viavi

Adopted Physical Layer Objectives



Making it all work together

Key Points

- At the November 2022 Plenary, in the P802.3df Task Force:
 - Motion #3 adopted RS(544) as the FEC encoding for 200G/lane AUIs
 - <u>https://www.ieee802.org/3/df/public/22 11/minutes 3df 2211 approved.pdf#page=16</u>
 - Motion #4 adopted differential PAM4 signaling as the basis for all the 200 Gb/s per lane AUIs (C2M and C2C)
 - <u>https://www.ieee802.org/3/df/public/22_11/minutes_3df_2211_approved.pdf#page=17</u>
- The two motions above are anticipated to be reaffirmed by the P802.3dj Task Force
- The path for a sixteen-lane 1.6TAUI-16 is well defined now

Establishing the 1.6TAUI-16

- Although the 1.6T PCS has not been adopted yet, we know that due to the "over 16 lanes" objective, there will be a 16x100G version
- The adopted RS544 FEC encoding (implicitly including the same transcoding used in previous PCSs) determines the overhead precisely, and based on having 16 physical lanes, the data rate is 106.25 Gb/s per physical lane
- The differential PAM4 signaling determines the signaling rate of 53.125 GBd, per-lane identical to 800GAUI-8
- The per-lane electrical characteristics of 1.6TAUI-16 can thus be based on 800GAUI-8
- Based on the electrical characteristics, the BER limit can be identical to that of 800GAUI-8

1.6TAUI-16 (16x100) - AUI

• AUI C2M

- Align to the latest version of 800GAUI-8 from IEEE P802.3df Annex 120G
- With editorial license, create text, figures and tables to reflect 1.6TAUI-16 C2M (n=16, where applicable). Update footnotes on Tables if needed

• AUI C2C

- Align to the latest version of 800GAUI-8 from IEEE P802.3df Annex 120F
- With editorial license, create text, figures and tables to reflect 1.6TAUI-16 C2C (n=16, where applicable). Update footnotes on Tables if needed

Proposed Straw Poll

• I support adopting lusted_3dj_01_2301xx.pdf slide 6 as the baseline for the 16-lane 1.6TAUI-16 C2M and C2C

• Y, N, A

• Possible motion to follow, pending straw poll results

Thanks!