

P802.3dj TF Electrical Track Progress Update

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Observations from the Dec-Jan Ad Hoc and Offline Discussions

- Strong consensus on adopting key foundations to baselines for 200G/lane CR, KR, AUI C2M, AUI C2C
- Limited progress on 200G/lane AUI C2M recommended channel insertion loss (informative)
 - Dependent on ref EQ assumptions
- Little to no progress on ref EQ parameter values for all electrical interfaces
 - Lack of multi-author, multi-affiliate presentations on the subject
 - Still working through COM updates for RXFFE + 1DFE architecture change
- Much discussion on MLSE capability in reference EQ
 - Strong support for including the MLSE effect in COM for 200G/lane CR and KR
 - No consensus for including the MSLE effect for 200G/lane AUI C2M and AUI C2C
 - Consensus on an approach for the MLSE effect is to use the MLSE COM calculations
 - MLSE Implementation penalty is TBD

Priorities – Phase 1: January 2024

- AUI C2M loss target and EQ parameter values
- CR/KR EQ architecture and EQ parameter values
- Reference EQ & COM features for all electrical interfaces/PHYs
 - Use MLSE or not?
 - Which MLSE approach/direction to take in COM?
 - Define floating taps?
 - Decide which interfaces to apply these to: CR, KR, C2M, C2C?
- Electrical link training (LT): concept, interface usage (CR, KR, C2M, C2C), commonality
- AUI C2M host & module output TX settings (“fixed” vs. “Adjustable”)

Reference EQ Baseline Challenges

- Based on prior experience, it takes us (the TF) at least 6 months to close on baseline reference EQ parameter values before successful adoption
 - We don't have that much time 😞
- We have diverse views on several key COM parameters, including:
 - # of pre/post TXFIR taps
 - # of pre/post RXFFE taps and type (fixed vs. floating)
 - Eta_0
 - R_d:
 - Many others not listed here
- How do we accelerate and get something on paper to discuss?

Summary

- We have an initial set of decisions related to Phase 1 to make at this meeting
 - Some are easy, some are tough
- We have many hard (and some easy) decisions to make next
- Per the adopted [timeline](#) , it is imperative that we start adopting baselines at this meeting to ensure continuation of the electrical interfaces and PHYs work within the P802.3dj Task Force (vs spin out)

Backup

Efforts Between Now and March

- Consensus building on Ref EQ parameter values for AUI C2M
 - Need strong consensus proposal by March!!
- Consensus building on Ref EQ parameter values for CR and KR
 - Need strong consensus proposal by March!!
- PMD & PMA training details
- MLSE consensus building & solution details
- AUI C2M compliance methodology direction (and initial baseline)

Priorities – Phase 2: March 2024

- AUI C2M transmitter and receiver compliance
 - Methodologies
 - Parameter values
- Electrical link training details: pattern, format, bit definitions, etc.
- AUI specification and measurement method: BER, CER, FLR, FEC symbol error ratio, PAM4 decision error ratio, etc.
- CR/KR transmitter and receiver compliance and CA channel test methods