

Completing the draft

Sanjay Kasturia
Editor-in-chief, 802.3an

(650) 704 7686
skasturia@teranetics.com

Introduction

- Draft 1.0 has been generated and is available online. Thanks to the following:
 - Jose Tellado for PCS and PMA sections
 - Sandeep Gupta for the PMA Electrical
 - Eric Lynskey for the Management Interface
 - Chris DiMinico for the Link Segment
 - Terry Cobb for the MDI and environmental specification
 - All of you for the presentations and critiques that have driven the decisions made so far
- The draft is consistent with all the key decisions that have been taken by the Task Force so far
 - Covers 8PAM and 12PAM
 - LDPC based framing
 - Link segment specifications limited to <500MHz
 - In places, Clause 40 and Clause 49 have been the basis of the text
 - Has many TBDs
- Read it and provide comments!

Work ahead

- Primary task now is to get draft 1.0 technically complete, approved by the task force and ready for Working group ballot before March 2005 as per the Chair's proposed timeline
- Here and at subsequent meetings we will continue to review and resolve comments on the draft
- We have had substantial discussion on the following topics and should make decisions on these choices at this meeting
 - PAM 8 vs. PAM 12
 - Symbol rate
 - LDPC code and framing

Other areas that require additional work

- We have other items on which there has been some discussion but I am not sure we have specific proposals with broad support
 - Power backoff scheme
 - number of steps, values, selection?
 - Tomlinson Harashima Precoding
 - n predefined sets or continuously variable
 - IIR or FIR
 - Startup
 - Set power backoff and THP during or after Autonegotiation?
 - Proposal from Seki
 - Specific transmit filtering
- A lot more needs to be done to get the draft complete

Some items from prior meeting summary

- PHY based cable diagnostics definition – Hugh Barrass
 - Hugh to work with interested PHY vendors to develop further
 - Can we capture some level of agreement?
- Auto-negotiation for 10GBASE-T- Eric Lynskey
 - Tighten link test pulse template for 10GBASE-T?
 - Power backoff should be part of auto-negotiation or Startup?
- PHY PMA electrical specs
 - For backoff, can we settle on number of levels and min?
- LDPC codes
 - The task force must lock down agreement on LDPC
 - Time-line, criteria and steps to selection of final choice?
- Can all candidate codes be put on the table ASAP?
 - Subjecting choice to early collective scrutiny could save us a lot of compute time
- 10GBASE-T PAM scheme: Fixed THP precoder for all cable types and lengths
 - Unlimited choice or a few sets of predefined coefficients?

Work ahead slide (from July plenary)

- Work plan to pick specific LDPC code
 - Criteria
 - Latency, Coding gain, Rate, Complexity
 - Expectations on simulation results
 - 10^{-12} or 10^{-13} ?
 - Confidence level
- Cable diagnostics details
 - Hugh Barrass to develop further
- Power backoff
 - Hiroshi and Sailesh to come back with a proposal
- Transmit PSD
 - One proposal is to use a digital filter: $0.75 + 0.25D$
 - Albert Vareljian to suggest analog filter
 - Alternative proposals?
- More detailed analysis on power consumption has been requested
- PMA electricals – more decisions to be made
- Startup – requires more scrutiny from the Task Force