

# Completing the draft

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# 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