SMF Ad Hoc report

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Introduction

The 40 Gb/s and 100 Gb/s Fiber Optic Task Force SMF Ad Hoc has:

- Held three conference calls since the San Antonio meeting:
  - 4 December 2012
  - 18 December 2012
  - 8 January 2013

- Reviewed 5 presentations:
  - 100G PSM4 Link Model Results Comparison petrilla_01_1212_smf
  - PSM4 Technology & Relative Cost Analysis Update anderson_01_1212_smf
  - Basic Study on Receiver Bandwidth Requirement for Discrete Multi-tone Modulation nishihara_01_1212_smf
  - 100G-BASE-WDM4 optical budget constraints vlasov_01a_0113_smf
  - System vendor perspective to NG100GE SMF interface shen_01_0113_smf

- Meeting minutes and presentations can be found at:
  - http://www.ieee802.org/3/bm/public/smfadhoc/meetings/index.html

Proposals

petrilla_01_1212_smf and anderson_01_1212_smf discussed modelling results, technology and relative cost analysis for the 4 fiber parallel SMF proposal.

nishihara_01_1212_smf provided an analysis of the receiver bandwidth required for the Discrete Multi-Tone (DMT) modulation proposal.

vlasov_01a_0113_smf discussed operation of a 4 lane CWDM solution at elevated temperature.

shen_01_0113_smf compared various solutions and concluded that a 4 lane CWDM solution is the best option.

Consensus?

Straw poll #5 from San Antonio was:

I would only support a baseline proposal for a SMF PMD based on:

• CWDM	0
• C-BAND	1
• DMT	6
• PSM4	14
• PAMn	14
• none of the above - rely on LR4 with CAUI-4	23

So there was no consensus on a new PMD proposal at that point.

This means that more presentations are required to build sufficient consensus to allow a decision on how the 500m over SMF objective will be met.

Future meetings

The Task Force has an objective:

Define a 100 Gb/s PHY for operation up to at least 500 m of SMF

The Distinct Identity response contains:

6. The amendment will enable new PHY types over SMF which consist of the existing 100GBASE-LR4 and 100GBASE-ER4 optical PMDs with four electrical interconnect lanes in each direction.
   The amendment will define a new 100 Gb/s SMF PMD in addition to these if it can be shown that a SMF PMD with a shorter reach than 100GBASE-LR4 has sufficient cost, density, or power difference to justify an additional SMF PMD type.

Presentations aimed at reaching consensus on a baseline proposal targeted at meeting this objective would be appropriate for future SMF Ad Hoc meetings.

Thanks!