MMF ad hoc report

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MMF ad hoc activity since Sept 2012

- Two MMF ad hoc calls on Oct 25th and Nov 8th, both well attended
  - Meeting minutes and presented materials are available on the 40G & 100G FOTF website: http://www.ieee802.org/3/bm/public/mmfadhoc/index.html
- Highlights:
  - Actively studying a KR4 FEC supported and retimed PMD for >100m reach.
  - Actively studying a KR4 FEC supported and un-retimed PMD for >20m reach.
    - Reach for a KR4 FEC supported PMD which is used without FEC could be the subject of a white paper or proprietary work
    - An agreed link model would be 'nice to have', for easy link budget checking, but is not a necessity (independent link models that support the consensus specs is sufficient). Link models should consider power and jitter budgets.
    - Target BER: a KR4 FEC supported PMD should be specified at an uncorrected output BER which supports a corrected BER of 10^{-12} .
  - Tracking tables created (& maintained by ad hoc chair) to follow proposed Tx and Rx parameter values, and to record the MMF ad hoc consensus on proposed spec's.

Presentations reviewed and discussion points

- **100G SR4 100m & 20m jitter and power budget analysis – petrilla_02_1112_optx (5)**
  - Presentation by John Petrilla describing KR4 FEC supported, retimed and un-retimed links, addressing the 20m and 100m reach objectives.
  - Jitter budget definition for an un-retimed FEC supported short reach MMF link was discussed. The possibility of using lower probability jitter metrics for the host electrical output and host input tolerance as one way of easing host requirements, is a subject for further study.
- **Tracker tables for proposed Tx and Rx values – MMF-TxRx-param-tracker-08Nov2012**
  - **Working document** to track consensus proposed specs (updated each MMF ad hoc meeting), referencing link model values from **Petrilla_2a_0912, Dawe_02_0912** and **802.3ba** specs, and **Fibre Channel** link model values.
  - The MMF ad hoc is agreeing Tx, Rx, and link, parameter values to go into a 'proposed' spec column. Astounding progress has been made.

MMF ad hoc looking forward

- Identified as needing resolution/further work:
  - Relationship of BER before and after FEC decoding; decide a target uncorrected BER.
  - Relationship of frame error ratio to bit error ratio; does this affect 802.3bm ?
  - If defined, should a 20m reach PMD be compatible with a 100m PMD ?
  - Jitter budget and metrics for an un-retimed FEC supported PMD ?
  - **Further contributions addressing the 100m MMF reach objective.**
  - **Further contributions addressing options for 20m MMF reach objective, preferably showing significant cost density or power improvements.**

- Build consensus towards baseline proposals targeting our MMF objectives.

- Next meetings: TBC: Thursday 22nd November, 2012, 8am Pacific
  TBC: Thursday 20th December, 2012, 8am Pacific

Thanks !