

802.3bq 40GBASE-T Channel Modeling Ad Hoc Minutes

May 17, 2013

B. Booth and P. Cibula, Channel Modeling Ad Hoc Co-Chairs

The ad hoc attendee list is included at the bottom of these minutes.

The meeting was called to order at 9:01AM.

The co-chairs welcomed the meeting attendees, reminded all in the room of the IEEE patent policy and asked if anyone was not familiar with this policy. All expressed familiarity with the policy so the patent policy was not read.

P. Cibula reviewed the agenda and solicited feedback; no changes were suggested. There followed a motion to approve the agenda as follows:

M: D. Chalupsky

S: H. Barrass

No opposition expressed, motion passes.

P. Cibula highlighted items the ad hoc needs to work on, and then asked for introductions and affiliations of attendees.

G. Zimmerman presented a “Potential Path Forward for Channel Modeling Ad Hoc” to provide context for the ad hoc’s brainstorming discussion and to suggest several parallel paths for the ad hoc to pursue as the channel modeling deliverables are developed.

Discussion occurred on the Strawman Process slide and the necessary deliverables to the PHY development team.

Notes on discussion on the proposed ad hoc Strawman Process (slide 3)

- Data on the right side is more difficult as not from standards communities
- M. Grimwood and G. Zimmerman to champion getting data on MDI and magnetics (isolation)
- Should we consider an AC coupled channel (no hybrid)?
- If we change “magnetics” to be “isolation”, the meaning is not lost relative to with/without magnets.
- Question about port numbering conventions; there are various port numbering conventions; how do we define one numbering sequence to prevent confusion with parameter? Mr. Vaden offered to provide a suggested port numbering convention that has been used in the cabling community.
- It was noted that cabling has asymmetry and this should be comprehended by the model(s)
- PCB stackup and noise: Switching and NIC folks were requested to ping their internal teams

Notes on discussion of Possible Channel Configurations (slide 5)

- We need to also determine a reasonable short channel, a parameter that is worst in a long channel may not be the worst parameter in a short channel
- We have three target application link lengths – 3m, 5m and 30m; and some configurations can be composition of these link lengths
- Knowing the shortest channel with connectors in it would be helpful
- Should we specify a gauge?
- Would like to have reach vs. gauge a consideration in the specification.
- The ad hoc discussed several proposed channel configurations and generally agreed that we are creating a channel configuration “matrix” with cable classes/categories on the “X” axis, topologies/lengths on the “Y” axis, and potential parameter improvements/relaxations as a “Z” axis. The Possible Channel Configurations slide was updated to reflect this discussion.
- Several cabling/channel improvements and relaxations were discussed

Action Items:

- S. Vaden agreed to provide port numbering information to the ad hoc; ad hoc to discuss at next meeting
- M. Grimwood and G. Zimmerman agreed to champion data collection on MDI and isolation path.
- B. Booth and P. Cibula agreed to champion data collection on PCB stackup and noise for 10GBASE-T systems, beginning with their internal teams. Others are encouraged to solicit this information as well.
- W. Larsen agreed, and C. DiMinico (through A. Flatman) requested, to champion the cabling channel MDI-to-MDI efforts outlined on the strawman process slide.
- P. Cibula to share some of his channel configurations and ones he considers irrelevant for 40GBASE-T

The ad hoc discussed logistics for the next Channel Modeling ad hoc meeting, which will be :

- Wednesday, June 5th 2013 at 8:00AM PDT
- WebEx information will be included in the ad hoc meeting announcement

The meeting was adjourned at 11:17AM.

Attendance:

Name	Affiliation
Hugh Barrass	Cisco
Brad Booth	Dell
David Chalupsky	Intel
Pete Cibula	Intel
Alan Flatman	LAN Technologies
Michael Grimwood	Broadcom
Paul Kish	Belden
Wayne Larsen	Commscope
Valerie Maguire	Siemon, TIA
Ron Nordin	Panduit
Martin Rossbach	Nexans
Bryan Sparrowhawk	Leviton
Sterling Vaden	Optical Cable Corp
Stefano Valle	ST Microelectronics
Paul Vanderlaan	Nexans
Bob Wagner	Panduit
Bill Woodruff	Broadcom
Peter Wu	Marvell
George Zimmerman	CME, Commscope, Aquantia