IEEE 802.3 100G Electrical Lane Study Groupj Ad Hoc meeting – January 3, 2018

Prepared by Kent Lusted

Proposed Agenda:

- Approval of the Agenda
- IEEE Patent Policy reminder:
  - https://development.standards.ieee.org/myproject/Public/mytools/mob/preparslides.pdf
- IEEE Participation Requirements reminder
- 100GEL Ad Hoc –
  - "Initial Backplane Models", Rich Mellitz
  - "Study Group: Status and Work", Beth Kochuparambil

Presentations posted at: http://www.ieee802.org/3/100GEL/public/adhoc/index.html

Meeting began at ~9:35 a.m. Pacific by Beth Kochuparambil, Acting Chair.

Meeting began with the agenda presentation:
http://www.ieee802.org/3/100GEL/public/adhoc/jan03_18/agenda_010318_100GEL_adhoc.pdf

The ad hoc chair reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes. Beth reminded participants to mute lines when not speaking and reviewed the steps to unmute.

Showed the links to the IEEE 802.3 100G/s per lane electrical Study Group ad hoc page and the email reflector.

Presented the proposed agenda and asked if there was objection as written. The agenda was approved by the ad hoc.

Chair noted that the minutes from the previous meeting were recently posted to the ad hoc web page.

Reminded participants of the IEEE patent policy. Chair asked if anyone was unfamiliar with the IEEE patent policy. No one responded.

Reminded participants of the IEEE Participation Requirements and showed the slide with the Participation requirements. Chair asked if anyone was unfamiliar with the IEEE Participation Requirements. No one responded.

Agenda Items

Presentation #1:
"Initial Backplane Models", Rich Mellitz
See:
http://www.ieee802.org/3/100GEL/public/adhoc/jan03_18/mellitz_100GEL_adhoc_01_010318.pdf

- On slide 3, it was noted that 50 mil long via barrels will add ~2dB to IL.
- Discussed the importance of a clean breakout impact to the channel quality. The channels proposed on slide 4 are considered best case and channels are likely to be worse.
- Slide 7 is ball-to-ball return loss, including the BGA breakout area.
- Rich will continue to work on channel models for the AUIs.
- Rich noted that the provided channels listed in this presentation are causal, passive, and stable. The channels are ultimately simulations but expected to correlate to measurement.
- Chair noted that the channels will be posted to the Study Group website soon.

Presentation #2:
"Study Group: Status and Work", Beth Kochuparambil
See:
http://www.ieee802.org/3/100GEL/public/adhoc/jan03_18/kochuparambil_100GEL_adhoc_01_010318.pdf

- On slide 6, discussed the assumption of reusing the 802.3bs PCS and FEC for the AUI interfaces. Discussed the option to reuse the electrical interface error requirements from P802.3bs vs. changing the requirements. If the 100G, 200G, 400G PCS and FEC are not reused, then the CSD compatibility response will need to include it.
- Kapil noted that the 802.3bm objectives for the C2M and C2C did not list an insertion loss target. Discussed the issue of 20dB IL AUI C2M impact to connector compatibility with passive copper cables.
- It was noted that the difference between AUI C2C vs the electrical backplane and its distinct identity.
- Discussed test points and generally agreed that it is too specific for the objective.
- On slide 10, discussed what is meant by low loss packages and the number of PHY types needed for the objectives. The opinions were diverse.

Beth noted that the next ad hoc meeting will be 8am Pacific on January 8, 2018. Beth gave notice that the ad hoc on January 15, 2018 may be cancelled due to OIF and US holiday conflicts.

Beth noted that presentation requests for the Geneva meeting are due on 12 January, 2018.

The ad hoc meeting ended at ~11:05 a.m. Pacific.

List of attendees (captured from Webex tool)

Name	Affiliation
Scott Airwin	Mosys
Vittal Balasubramanian	Innovium
Amir Bar-Niv	Aquantia
Matt Brown	Macom
Adrian Butter	Global Foundries
David Chalupsky	Intel
David Chen	Applied Optoelectronics
John D'Ambrosia	FutureWei
Piers Dawe	Mellanox
Hormoz Djahanshahi	Microsemi
Mike Dudek	Cavium
John Ewen	Globalfoundries
Ramin Farjadrad	Aquantia
James Fife	Etopus
Ed Frlan	Semtech
Ali Ghiasi	GhiasiQuantum LLC
Mark Gustlin	Xilinx
Alex Haser	Molex
Adam Healey	Broadcom
Howard Heck	Intel
Yasuo Hidaka	Independent
Rita Horner	Synopsys
Peter Jones	Cisco
Mark Kimber	Semtech
Jonathan King	Finisar
Scott Kipp	Broadcom
Bill Kirkland	Semtech
Beth Kochuparambil	Cisco
Kumaran Krishnasamy	Broadcom
David Law	HPE
Dave Lewis	Lumentum
Mike Li	Intel
Kent Lusted	Intel
David Malicoat	Senko
Arthur Marris	Cadence
Rich Mellitz	Semtech
Dale Murray	Lightcounting
Nhat Nguyen	Rambus
Gary Nicholl	Cisco
Takeshi Nishimura	Yamaichi Electronics, USA
David Ofelt	Juniper
Tom Palkert	Molex/Macom

Rick Rabinovich	IXIA
Adee Ran	Intel
Zvi Rechtman	Mellanox
Alexander Rysin	Mellanox
Toshiaki Sakai	Socionext
Ed sayre	Samtech
Scott Schube	Intel
Megha Shanbhag	TE Connectivity
Kapil Shrikhande	Innovium
Scott Sommers	Molex
Ted Sprague	Infinera
Phil Sun	Credo
Pirooz Tooyserkani	Cisco
Nathan Tracy	TE Connectivity
Martin White	Cavium
Mau-Lin Wu	Mediatek
Andy Zambell	Amphenol
George Zimmerman	ADI, APL Group, Aquantia, BMW, Cisco Systems, Commscope