

## IEEE P802.3cu Task Force Ad Hoc meeting – May 1, 2019

Prepared by Mark Nowell

### Proposed Agenda:

- Approve agenda
- Approve previous ad hoc minutes
- Patent reminder
- <http://www.ieee802.org/3/patent.html>
- Participant reminder
- P802.3cu Task Force Ad hoc:
  - “Task Force Update” – Mark Nowell (5 mins)
  - “100GBASE-FR & 100GBASE-LR Baseline Proposals” – Brian Welch (15 mins)
  - “400GBASE-FR4 baseline proposal” – Hai-Feng Liu (15 mins)
  - “400GBASE-LR4 DGD Penalty” – Jialong Shuai (15 mins)

Presentations posted at:

[http://www.ieee802.org/3/cu/public/cu\\_adhoc/cu\\_archive/index.html](http://www.ieee802.org/3/cu/public/cu_adhoc/cu_archive/index.html)

Meeting began at ~8:00 a.m. Pacific

Meeting began with the agenda presentation:

[http://www.ieee802.org/3/cu/public/cu\\_adhoc/cu\\_archive/agenda\\_3cu\\_adhoc\\_050119.pdf](http://www.ieee802.org/3/cu/public/cu_adhoc/cu_archive/agenda_3cu_adhoc_050119.pdf)

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

Showed the links to the IEEE 802.3cu Task Force 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 asked if there were any changes needed to the minutes from the last meeting that were posted. Chair asked if there was any objection to approving the minutes as written. The minutes were approved by the ad hoc.

Reminded participants of the IEEE patent policy. He 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

P802.3cu Task Force update, Mark Nowell

- 1<sup>st</sup> Task Force F2F meeting will be during May interim:
  - Week of May 20th
  - <http://www.ieee802.org/3/interims/may19/index.html>
  - P802.3cu TF will meeting all-day Thurs 23<sup>rd</sup> and Friday 24<sup>th</sup> morning
  - Presentation request deadline: Friday May 10<sup>th</sup>
    - Presentation submission deadline: Tuesday May 14<sup>th</sup>
  - This will be the first opportunity to make technical decisions

Presentation #1:

“100GBASE-FR & 100GBASE-LR Baseline Proposals” – Brian Welch

See: [http://www.ieee802.org/3/cu/public/cu\\_adhoc/cu\\_archive/welch\\_3cu\\_adhoc\\_050119.pdf](http://www.ieee802.org/3/cu/public/cu_adhoc/cu_archive/welch_3cu_adhoc_050119.pdf)

- Proposed baseline for 100GBASE-FR and 100GBASE-LR.
- Update from Vancouver presentation.
- Used 100GBASE-DR as starting point and added to the budget to accommodate extra reach
- Reviewed specific technical spec values included in the proposal
- Question raised about the DGD penalty allocation for 10km spec
- Request to have diagrams being consistent with previous clauses

Presentation #2:

400GBASE-FR4 baseline proposal” – Hai-Feng Liu

See: [http://www.ieee802.org/3/cu/public/cu\\_adhoc/cu\\_archive/liu\\_3cu\\_adhoc\\_050119.pdf](http://www.ieee802.org/3/cu/public/cu_adhoc/cu_archive/liu_3cu_adhoc_050119.pdf)

- Proposed baseline for 400GBASE-FR4
- Update from Vancouver presentation
- Consistent methodology to other 100G per wavelength specifications but with the inclusion of CWDM wavelength approach for 4 channels
- Extra link budget needed to accommodate optical mux/demux is divided between Tx and Rx specs

Presentation #3:

“400GBASE-LR4 DGD Penalty” – Jialong Shuai

See: [http://www.ieee802.org/3/cu/public/cu\\_adhoc/cu\\_archive/shuai\\_3cu\\_adhoc\\_050119.pdf](http://www.ieee802.org/3/cu/public/cu_adhoc/cu_archive/shuai_3cu_adhoc_050119.pdf)

- presented experimental and simulation results of the impact of polarization dispersion on 10km links using 100G per wavelength
- 8ps of DGD used previously for IEEE specs at 10km reach
- Created experimental results using 12 ps of DGD (due to equipment availability). Reported ~ 1.8dB DGD penalty

- Showed simulation to emulate experiment to suggest that @ 8ps DGD a penalty of ~ 0.6 dB could occur
- Question on the probability of such fibers in the field. Does 8ps DGD represent typical fiber, worst case etc?
- ITU G.652 has different categories for PMD for fibers. 0.5 ps/sqrt(km) & 0.2ps/sqrt(km)
- Previous fiber analysis of PMD was based on the assumption of long concatenated fibers and may not be applicable to this IEEE scope
  - Modern fibers may be significantly better than when the original analyses were made – input from the fiber companies would be helpful
- Question raised whether it was reasonable to consider possibility of worst case MPI, DGDmax, TDECQ (dispersion) all happening simultaneously. Can some statistical approach be used? Better knowledge of distributions would help.

The ad hoc meeting ended at ~9 a.m. Pacific.

Attendees: (captured from Webex tool)

Piers Dawe	mellanox
Gary Nicholl	cisco
Hai-Feng	intel
Hideki Isono	jp.fujitsu
Joe Gwinn	raytheon
Raymond Nering	cisco
peter stassar	huawei
David Piehler [Dell EMC]	dell
Bo Zhang	inphi
Greg LeCheminant	keysight
bill kirkland	semtech
Ali Ghiasi	Ghiasi Quantum
Pete Anslow (Ciena)	ciena
Jeffery Maki	juniper
David Malicoat	independent
Mike Dudek	marvell
BRIAN WELCH	cisco

david malicoat	gmail
Tony Jialong	hisilicon
Shimon Mueller	axalume
David Chen	ao-inc
Dave Lewis (Lumentum)	lumentum
Mark Nowell	cisco

List of attendees (captured from Webex tool)