

Agenda for IEEE P802.3ck
100 Gb/s, 200 Gb/s, and 400 Gb/s
Electrical Interfaces Task Force
ad hoc meeting, June 26th, 2019

Beth Kochuparambil – Chair

Kent Lusted – Vice Chair

Meeting

- Attendance
 - Attendee names and affiliations for these ad hoc meetings will be taken from the WebEx participants list.
 - Please ensure that your full name and employer/affiliation are indicated correctly.
 - If the WebEx participants list does not correctly indicate your name and employer/affiliation, please send an e-mail to the chair: Beth Kochuparambil ([edonnay at cisco dot com](mailto:edonnay@cisco.com)).
- WebEx
 - Please mute your lines if you are not speaking
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 - Noisy, unmuted lines will be muted by the WebEx organizer
 - *6 to unmute if this happens to you
- Participants wishing to contact the presenter can contact the Chair for their contact info

.3ck Task Force ad hoc communications

- The TF web page is here:
 - <http://www.ieee802.org/3/ck/index.html>
- All e-mail communications are via the SG/TF reflector
 - archive and subscription links are here:
<http://www.ieee802.org/3/100GEL/reflector.html>

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(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

Proposed agenda

- Approval of the Agenda
- Approve June 12th Ad Hoc Minutes
- IEEE Patent Policy reminder:
 - <http://www.ieee802.org/3/patent.html>
- IEEE Participation Requirements reminder
- Logistics for July Plenary meeting
- Status of Task Force
- .3ck Technical Presentations* –
 - Representing Discontinuities for CR Host Board – Liav (25min)
 - On-die Termination Model Comparison for C2M – Phil (25min)
 - The effect of host trace length on 100G C2M – Mike D (25min)
 - How to Proceed on C2C Application – Ali (25min)

*Slides are posted in Ad Hoc area.

- <http://www.ieee802.org/3/ck/public/adhoc/index.html>

Logistics for July Plenary

- 802 Plenary meets July 15-18th in Vienna, Austria
 - **.3ck is meeting Tuesday 9am* – Thursday 12pm (with obvious breaks)**
 - * Our start time may be delayed based on progress in .3cu (we are sharing a room)
- **Request for presentations are due Friday, July 5th AOE.**
- **Presentations are due by 5pm PDT Wednesday, July 10th.**
 - Late presentations can/should still be submitted, but will be subject to available time on the agenda and Task Force approval.
- My goal: Adopt additional baselines, enough to make draft 1.0
- For more information and registration, see: <http://www.ieee802.org/3/interims/may19/index.html>
- If you are new to the IEEE standards and need more detail for submitting requests/presentations, see the webpage or email Beth: <http://www.ieee802.org/3/ck/public/presentproc.html>

Outline for July Plenary

- Conflicts in meetings will happen

	Monday	Tuesday	Wednesday	Thursday
AM	3cu (8-10am) 802.3 Plenary (10am-12)	3cu/3ck (we'll start at 9am or when 3cu finishes)	3ck 3ct/3cn	3ck 3cm
Lunch				
PM	3cu	3ck 3ct/3cn	3ck 3ct/3cn 3cm	802.3 Plenary
Evening	No tutorials	CFIs	No social??	

Baselines Adopted

<http://www.ieee802.org/3/ck/public/baselines/index.html>

PCS, FEC, and PMA

- [Mark Gustlin presented FEC/PCS/PMA](#) (100G C2M AUI, 200G/400G all), Adopted Mar 2019

Auto-Negotiation

- [Jeff Slavick presented AN](#), Adopted Sept 2018
- [Jeff Slavick presented Link Training](#) (with max_wait_timer as TBD), Adopted May 2019

AUIs: C2M, C2C

- [Phil Sun presented C2M framework](#) (ref. RX agnostic), Adopted Mar 2019

PMDs: Backplane & Cu Cable

- [Tom Palkert presented MDIs](#), Adopted Sept 2018
- [Howard Heck presented Backplane framework](#) (DFE-base ref. RX), Adopted Mar 2019

Nomenclature

- [Kent Lusted presented 2 nomenclature options](#), Straw poll used to determine Option B Jan 2019

Still Need:

- 100G KR/CR FEC/PCS/PMA
- 100G C2C FEC/PCS/PMA
- C2M Ref Rx/ERL?/Precoding?
- C2C
- Backplane Ref RX
- Cu Cable Budget/HCB/MCB

C2M Update

Missing information

(from brown_3ck_02_0519)

- 120H.1 Overview
- 120H.3.1 Host output characteristics
 - 120H.3.1.3 Host output ERL
 - 120H.3.1.6 Host output eye width, eye height, and VEC (ref RX)
- 120H.3.2 Module output characteristics
 - 120H.3.2.1 Module output eye width, eye height, vertical eye closure, and pre-cursor ISI ratio (ref RX)
- 120H.3.3 Host input characteristics
- 120H.3.4 Module input characteristics
- 120H.4.2 HCB/MCB characteristics

May Summary:

- Agreed on channels to support
- Phil's "A/B Class" performance is likely needed
- Karthik presented an alternate proposal; used internal simulator and pointed out TX optimization

Offline discussions:

- Initial COM look at Karthik's proposal is not promising
- New Termination seems to have positive impact – possible new proposals on the table
- Much discussion about TP4/TP5

Backplane Update

Missing information

(from sun_3ck_02a_0519)

- 163.9.1 MDI
- 163.9.2 Transmitter Characteristics
- 163.9.2.1 Transmitter ERL
- 163.9.3.1 Receiver ERL
- 163.10 Channel Characteristics (ref RX)

May Summary:

- Floating taps may be helpful, more investigation is needed
- Termination model under fire

Offline discussions:

- New termination model proposed
- Focused ref RX analysis on System “must support” list
- Wider view of submitted channels

Cu Cable Update

May Summary:

- More data shown, more to come
- 29dB may be needed

Offline discussions:

- Discussions on budget breakdown
- Further analysis on end-to-end channels
 - Manufacturing variation
 - Xtalk improvement
- Investigation with termination and Ref RX

C2C Update

May Summary:

- Discussion of use cases

Offline discussions:

- Continued discussion of use cases
- Investigate FEC implications
- Need to translate this into COM
- Dependency on C2M/FEC decision?

Observations

- Great Progress! ... but still more to do
- Caution against “spinning our wheels”
- Possible schedule impact
 - 2 meeting slip up front, could mean 3-4 meeting slip at the tail

