

IEEE P802.3ck Telephonic Interim meeting – March 18, 2020

Prepared by Kent Lusted and Beth Kochuparambil

Proposed Agenda:

- Approval of the Agenda
- IEEE Patent Policy reminder:
 - <http://www.ieee802.org/3/patent.html>
- IEEE Copyright reminder
 - <https://standards.ieee.org/ipr/index.html>
- IEEE Participation Requirements reminder
- Task Force Status
- Operations of Telephonic Interims
- Chief Editor’s Report
- Comment Resolution (numbers listed are the comment # we will address*)
 - Logic
 - FEC negotiation: #48, 56
 - slavick_3ck_01_0320
 - FEC Enable: #21
 - 120F: C2C Ref. RX
 - sun_3ck_01_0320, ghiasi_3ck_02_0320, healey_3ck_01a_0320
 - Channel/COM: #157, 69, 132, 158
 - Channel/Nb: #16, 133, 147
 - Channel/Bmax: #17, 134, 159
 - Channel/COM: #146, 135
 - RX Characteristics: #78, 156
 - 163 KR
 - COM TBD: #67, 155
 - 120G: C2M General
 - Host Input: #108, 10063, 124
 - Module Input: #107, 110
 - 162: CR general
 - ran_3ck_04_0320
 - TX Characteristics: #62, 63, 74, 57, 130
 - CC: Max_wait_timer
 - Timer TBD: #18

Presentations posted at: http://www.ieee802.org/3/ck/public/20_03/index.html

Meeting began at ~06:05 a.m. Pacific by Beth Kochuparambil.

Meeting began with the agenda presentation:

http://www.ieee802.org/3/ck/public/20_03/agenda_3ck_01_0320.pdf

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

Presented the proposed agenda.

Motion #1:

Move to approve the agenda.

M: Arthur Marris

S: Nathan Tracy

Motion passed by voice without opposition

The chair noted that the January 2020 interim minutes were posted. No one indicated a request for modification prior or on the call.

Motion #2:

Move to approve the IEEE 802.3ck January 2020 interim meeting minutes.

M: Steve Trowbridge

S: Kent Lusted

Motion passed by voice without opposition

Chair reminded participants of the IEEE patent policy. She asked if anyone was unfamiliar with the IEEE patent policy. (See: <http://www.ieee802.org/3/patent.html>) No one responded. Chair made the call for patents. No one responded.

Reminded participants of the IEEE copyright policy. She asked if anyone was unfamiliar with the copyright policy. (See: <https://standards.ieee.org/ipr/index.html>) No one responded.

Reminded participants of the IEEE Participation Requirements and showed the slide with the Participation requirements. She asked people to leave the call if unwilling to abide by this policy.

Chair asked if there were members of the press. No one responded.

Agenda Items

P802.3ck Update, Beth Kochuparambil

See: http://www.ieee802.org/3/ck/public/20_03/agenda_3ck_01_0320.pdf

- Reviewed the large topics to close. Goal was to close large topics and generate Draft 1.2.

- Reviewed the comment resolution process outlined on slide 10 of http://www.ieee802.org/3/ck/public/20_03/agenda_3ck_01_0320.pdf
- Chair noted that there was no time for crafting solutions on the floor. Emphasized the need for offline consensus building.
- Chair noted that presentations would be limited to 10 minutes and strictly enforced.
- Chair reviewed the process to return to a closed comment. Chair asked if there were questions or concerns. No one responded.
- Chair announced the deadline to pull comments from the buckets as Sunday 3/29 AoE.
- Reviewed the functionality of the conference call tools.

Chief Editor's Report:

"Chief Editor's Report", Matt Brown

See: http://www.ieee802.org/3/ck/public/20_03/brown_3ck_01_0320.pdf

- Chief Editor thanked editors and advisors, including Mau-Lin Wu, for their work on the draft.
- Reviewed criteria editorial team used to select the comment order noting that it is likely we will not close all of the comments.
- Reviewed the non-controversial and incomplete-remedy buckets as well as the process of which to pull comments from the buckets.
- Reviewed the comments to address.

Presentation #1:

"Comment Resolution Agenda", Matt Brown

See: http://www.ieee802.org/3/ck/public/20_03/brown_3ck_02_0320.pdf

- Reviewed the clause schedule, which is subject to change.
- Chair noted the comment agenda for the current call was posted at http://www.ieee802.org/3/ck/public/20_03/agenda_3ck_01_0320mini.pdf

Comment resolution began.

Presentation #2:

"Supporting Material for Comment #21", Jeff Slavick

See: http://www.ieee802.org/3/ck/public/20_03/slavick_3ck_01_0320.pdf

- Clarified the updated suggested remedy.

Presentation #3:

"C2C Equalization Parameters for COM", Phil Sun

See: http://www.ieee802.org/3/ck/public/20_03/sun_3ck_01_0320.pdf

- Clarified CTLE and rise time assumptions in the analysis.
- Clarified $b_{max}(1)$ values and impact to the COM results.

Presentation #4:

"C2C Channel Equalization Options", Ali Ghiasi

See: http://www.ieee802.org/3/ck/public/20_03/ghiasi_3ck_02a_0320.pdf

- There was a correction to the COM RD=50 ohms value on slide 9. Author to provide updated version '02a'
- Clarified recommendations on the summary slide.

Presentation #5:

"Equalizer Range and Resolution", Adam Healey

See: http://www.ieee802.org/3/ck/public/20_03/healey_3ck_01a_0320.pdf

- Clarified the summary recommendations.

Comment #158 was withdrawn by Mike Li.

Straw poll #1: (direction check on C2C COM for comment #16)

For the C2C AUI, I support the Nb value (Chicago rules):

4-fixed: 5 5-fixed: 13 6-fixed: 29

Straw Poll #2: (direction check on C2C COM for comment #17)

For the C2C AUI, I support:

A: $b_{max}(1)=0.85$, $b_{max}(2:6)=0.2$

B: $b_{max}(1)=0.7$, $b_{max}(2:6)=0.15$

A: 20 B: 8

Straw Poll #3: (C2C COM - bmax values)

For use of closing comment #17. Details in the comment database.

Yes: 27 No: 6

Straw Poll #4: (C2C rise time)

For use of closing comment #157. Details in the comment database.

Yes: 18 No: 13

Chair asked if there was opposition to extending the meeting past the announced 9am Pacific end time. There were objections.

Chair reminded participants of the 7am Pacific start next week per the meeting announcement (see <http://www.ieee802.org/3/100GEL/email/msg00381.html>). The priority continues to be on closing big ticket items. The list of comments for consideration were targeted for posting on Monday. The updated comment responses (from comments closed at this meeting) would be posted soon.

The telephonic interim ended at ~9:00 am Pacific.

List of attendees (captured from Webex tool)

| Name | Affiliation | Employed by |
|------------------------|-------------------------|-------------------------|
| Adam Healey | Broadcom | Broadcom |
| Adee Ran | Intel | Intel |
| Alan Kinningham | I-PEX | I-PEX |
| Alex Haser | Molex | Molex |
| Alexander Rysin | Habana | Habana |
| Ali Ghiasi | Ghiasi Quantum/Inphi | Ghiasi Quantum/Inphi |
| Andy Rodan | Mellanox | Mellanox |
| Andy Zambell | Luxshare-ICT | Luxshare-ICT |
| Arthur Marris | Cadence | Cadence |
| Bert Klaps | Intel | Intel |
| Beth Kochuparambil | Cisco | Cisco |
| Brandon Gore | Samtec | Samtec |
| Brian Welch | Cisco | Cisco |
| Bruce Champion | TE Connectivity | TE Connectivity |
| Burrell Best | Samtec | Samtec |
| Champion Kao | Intel | Intel |
| Chan Chih (David) Chen | Applied Optoelectronics | Applied Optoelectronics |
| Chris DiMinico | PHY-SI | PHY-SI |
| Clint Walker | Alphawave IP | Alphawave IP |
| Daniel Koehler | More than IP | More than IP |

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|--------------------|-----------|-------------------------------|
| Dave Hess | Cord Data | Cord Data |
| David Law | HPE | HPE |
| David Malicoat | Senko | Malicoat Networking Solutions |
| David Ofelt | Juniper | Juniper |
| David Rennie | Synopsys | Synopsys |
| Ed Frlan | Semtech | Semtech |
| Frank Lambrecht | Gigamon | Gigamon |
| Gary Nicholl | Cisco | Cisco |
| Geoff Zhang | Xilinx | Xilinx |
| George Luk | Credo | Credo |
| Greg LeCheminant | Keysight | Keysight Technologies |
| Greg McSorley | Amphenol | Amphenol |
| Hao Ren | Huawei | Huawei |
| Hormoz Djahanshahi | Microchip | Microchip |
| Howard Heck | Intel | Intel |
| Inho Kim | Marvell | Marvell |
| James Weaver | Arista | Arista |
| James Young | Commscope | Commscope |
| Jane Lim | Cisco | Cisco |
| Jeff Slavick | Broadcom | Broadcom |
| Jeffery Maki | Juniper | Juniper |
| John Calvin | Keysight | Keysight |

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|--------------------|-----------------|-----------------|
| John Ewen | Marvell | Marvell |
| John Yurtin | Aptiv | Aptiv |
| Johnny Liou | Wistron | Wistron |
| Joshua Kim | Hirose | Hirose |
| Kent Lusted | Intel | Intel |
| lance thompson | Finisar | Finisar |
| Lavi Koch | Mellanox | Mellanox |
| Leon Bruckman | Huawei | Huawei |
| Liav Ben-Artzi | Marvell | Marvell |
| Lokesh Kabra | Synopsys | Synopsys |
| Marcelo Guedes | Idea IP | Idea IP |
| Mark Gustlin | Cisco | Cisco |
| Mark Kimber | Samtech | Samtech |
| Matt Brown | Huawei | Huawei |
| Mau-Lin Wu | Mediatek | Mediatek |
| Mike Klempa | UNH-IOL | UNH-IOL |
| Mike Li | Intel | Intel |
| Nathan Tracy | TE Connectivity | TE Connectivity |
| Phil Sun | Credo | Credo |
| Piers Dawe | Mellanox | Mellanox |
| Pirooz Tooyserkani | Cisco | Cisco |
| Qing | Ranovus | Ranovus |
| Rich Mellitz | Samtec | Samtec |

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|------------------|------------------------------------|------------------------------------|
| Rick Rabinovich | Keysight | Keysight |
| Robert Summers | Maxim Integrated | Maxim Integrated |
| Ruoxu Wang | Hi Silicon | Hi Silicon |
| Sam Kocsis | Amphenol | Amphenol |
| Scott Sommers | Molex | Molex |
| Shawn Nicholl | Xilinx | Xilinx |
| Sridhar Ramesh | Independent | Independent |
| Stephen Didde | Keysight | Keysight |
| Steve Sekel | Keysight | Keysight |
| Steve Trowbridge | Nokia | Nokia |
| Tao Hu | Marvell | Marvell |
| Ted Sprague | Infinera | Infinera |
| Terry Little | Foxconn Interconnect Technology | Foxconn Interconnect Technology |
| Tom Palkert | Molex/Macom | Molex/Macom |
| Toshiaki Sakai | Socionext | Socionext |
| Upen Kareti | Cisco | Cisco |
| Xiang He | Huawei | Huawei |
| Xinyuan Wang | Huawei | Huawei |
| Yasuo Hidaka | Credo | Credo |
| Yekutiel Uliel | Intel | Intel |
| Zvi Rechtman | Mellanox | Mellanox |