

Approved Minutes

# IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force

Interim Meeting

January 22-24, 2018

Geneva, Switzerland

Prepared by Kent Lusted and Mark Nowell

# Table of Contents

[Table of Contents](#)

[IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force – January 22, 2018](#)

[Electrical Track](#)

[Optical Track](#)

[IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force – January 23, 2018](#)

[Electrical Track](#)

[Optical Track](#)

[IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force – January 24, 2018](#)

[Attendees](#)

# IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force – January 22, 2018

*Prepared by Kent Lusted*

IEEE P802.3cd 50 Gb/s, 100 Gb/s, and 200 Gb/s Ethernet Task Force meeting convened at ~9:15 a.m., by Mark Nowell, Task Force Chair.

Chair welcomed attendees.

Introductions were made.

Chair reviewed agenda in [http://www.ieee802.org/3/cd/public/Jan18/agenda\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/agenda_3cd_01_0118.pdf)

## **Motion #1:**

Move to approve the agenda:

- Moved by: Mike Dudek
- Second by: Pavel Zivny
- Passed by voice without opposition

Minutes were posted shortly after the November meeting. Chair asked if there was any feedback on the posted minutes. No one responded.

## **Motion #2:**

Move to approve the November 2017 minutes:

- Moved by: Mike Dudek
- Second by: Mike Li
- Passed by voice without opposition

Chair reminded participants to observe meeting decorum. Called for members of the press. No one responded. Photography and recording are not permitted.

Chair reviewed the reflector and web information. Chair reviewed the ground rules for the meeting.

Chair reviewed the attendance procedures. Chair reminded participants to sign into the IEEE Meeting Attendance Tool and to sign the book.

Chair reviewed the IEEE structure.

Chair reviewed the Bylaws and Rules slides in [http://www.ieee802.org/3/cd/public/Jan18/agenda\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/agenda_3cd_01_0118.pdf)

Chair noted that there was a slide with a statement on the participation in IEEE 802 Meetings. Chair noted that by participating in the IEEE 802 meeting, that participants accept these requirements. Chair asked if there were questions about the participation requirements. No one responded.

**IEEE Patent Policy:** Chair reviewed the Patent related slides on the 4 slides contained in the agenda. Chair calls for potentially essential patents. No one responded. Chair read the Guidelines for IEEE WG meetings. No one responded.

**Chair advised the WG attendees that:**

- The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
- Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
- There may be Essential Patent Claims of which the IEEE is not aware. Additionally, the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.

No one responded.

Chair reviewed the IEEE 802.3 Standards Process.

Chair noted that a liaison letter from OIF in November with updated versions of the CEI-56G specification. Received another liaison on Friday indicating that the CEI-56G specification is complete. Tom Palkert indicated that it was not necessary to respond to the OIF letter.

Also received a liaison from Metro Ethernet Forum. The file is posted on the webpage. Shared their draft 0.9 draft and requested comment from IEEE. Chair prepared a draft of the liaison response to correct references in their letter. The draft response is now posted to the meeting website (see: [http://www.ieee802.org/3/cd/public/Jan18/IEEE\\_8023\\_to\\_MEF\\_0118\\_liaison.docx](http://www.ieee802.org/3/cd/public/Jan18/IEEE_8023_to_MEF_0118_liaison.docx) ). Chair asked participants to review and provide feedback.

Chair reviewed the links to the P802.3cd Ethernet Task Force approved project documentation.

Chair reviewed the adopted objectives.

Chair reviewed the adopted timeline and the current timeline. Chair noted that the Task Force is approximately 1 cycle ahead of the adopted schedule. The Task Force will continue with

D3.1 and D3.2 with declining comment count. Chief Editor Matt Brown reviewed a few options to keep P802.3cd aligned with the IEEE 802.3cj Revision project. The P802.3cd draft may need to be left open in order to implement editorial changes to align with IEEE 802.3cj Revision project. Chair noted that the discussion will continue in future meetings to determine the best course of action.

Chair reviewed the D3.0 initial Sponsor Ballot results.

Goals for the meeting:

- Comment Resolution
- Review Technical presentations
- Generate D3.1

Chair reviewed the meeting logistics. After lunch on Monday, the Task Force will have tracks. The electrical track will remain in the main room and optical will be in the CICG building room C12 (see agenda: [http://grouper.ieee.org/groups/802/3/interims/802\\_3\\_jan\\_0118\\_R3a.htm](http://grouper.ieee.org/groups/802/3/interims/802_3_jan_0118_R3a.htm) ). The optical track will start after lunch. Chair discussed how to get to the CICG room. Matt Brown noted that there is a conflict with the NGMMF Study Group for Monday and Tuesday. Chair reviewed the plan to minimize the overlap with NGMMF, however, the meetings are running simultaneously.

The technical presentations will be addressed during comment resolution. Chair noted that there was an updated presentation from Pavel Zivny and Scott Schube. Pavel has technical changes and Scott has updated material. Chair asked if there was objection. No one responded.

Chair reviewed the meeting agenda.

Future Meetings:

- March 2018 Plenary
  - Week of March 5, 2018 – Rosemont, IL, USA
- May 2018 interim
  - Week of May 21, 2018 – Pittsburgh, PA, USA
- July 2018 Plenary
  - Week of July 8, 2018 – San Diego, CA, USA

Anyone interested in hosting a meeting should contact the Chair or Steve Carlson.

Marco Mazzini, as co-author, noted that the liu\_03cd\_01\_0118 presentation was updated with technical changes. Chair asked if there was objection. No one responded.

### **IEEE P802.3cd Task Force Ad-hoc report:**

“802.3cd Task Force Ad-hoc report”, Kent Lusted

See: [http://www.ieee802.org/3/cd/public/Jan18/lusted\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/lusted_3cd_01_0118.pdf)

- Tentatively expect calls to resume on February 7, 2018. Announcement will be made over the email reflector.

### **Presentation #1:**

“Chief Editor’s Report”, Matt Brown

See: [http://www.ieee802.org/3/cd/public/Jan18/brown\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/brown_3cd_01_0118.pdf)

- Chair thanked the editors and advisors for their efforts to review and produce the draft.
- Matt Brown also thanked Pete Anslow for his review of the pre-released draft.

### **Presentation #2:**

“Comment Agenda”, Matt Brown

See: [http://www.ieee802.org/3/cd/public/Jan18/brown\\_3cd\\_02\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/brown_3cd_02_0118.pdf)

- Matt reviewed the list of comments considered “bucket” worthy. (see: [http://www.ieee802.org/3/cd/comments/8023cd\\_D30\\_comment\\_proposed\\_responses\\_bucket\\_list\\_v2.pdf](http://www.ieee802.org/3/cd/comments/8023cd_D30_comment_proposed_responses_bucket_list_v2.pdf) )
- Matt asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.
- Kent Lusted noted the differences between the originally posted bucket file ([http://www.ieee802.org/3/cd/comments/8023cd\\_D30\\_comment\\_proposed\\_responses\\_bucket\\_list.pdf](http://www.ieee802.org/3/cd/comments/8023cd_D30_comment_proposed_responses_bucket_list.pdf) ) and newly posted “v2” ([http://www.ieee802.org/3/cd/comments/8023cd\\_D30\\_comment\\_proposed\\_responses\\_bucket\\_list\\_v2.pdf](http://www.ieee802.org/3/cd/comments/8023cd_D30_comment_proposed_responses_bucket_list_v2.pdf) )
  - Comment #102 was pulled from the bucket.
  - The proposed responses to comments, #89, #40 and #7 were updated since the first posting of the “bucket” pdf and reflected in the new posting.

Matt Brown reviewed the tentative plan for comment resolution.

Mike Dudek requested to pull comment #86 from the bucket list.

Comment resolution began.

Break at 10:30 a.m. Resumed at 11:00 a.m.

Chair noted that there was a late presentation request from Piers Dawe on the jitter topic and it is now posted to the website. Chair asked if there was objection to hearing the presentation.

No one responded. Posted as

[http://www.ieee802.org/3/cd/public/Jan18/dawe\\_3cd\\_02\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/dawe_3cd_02_0118.pdf)

Matt Brown asked participants to review the jitter presentations offline and defer the discussion until later when the tracks are complete.

Chair asked for a show of hands for the optical track. Chair asked for a show of hands for the electrical track. Chair summarized that the indications were approximately the same.

Comment resolution continued.

Chair noted that after lunch the Task Force will resume in tracks. Electrical track resumes in C2. Optical track resumes in C12. The tracks will resume at either 8:00 a.m. on Tuesday or another announced time, subject to the track chair's discretion.

Break at ~12:10 p.m.

## **Electrical Track**

By Kent Lusted

Chair was Kent Lusted

The electrical track resumed at ~1:30 p.m. in the C2 room by Kent Lusted. There were approximately 25 people in the room. He reminded participants that the optical track was in C12 room C12.

Kent Lusted asked participants to review the proposed responses for the "bucket worthy" comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

Kent Lusted reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Comment resolution began.

Kent announced that the optical track changed to C12 Room 14.

**Presentation #ET-1:**

“ERL proposal (directly addressing comments 46, 49, 71-77, 96, 97, 98, 133, 136,137, 141)”,  
Rich Mellitz

See: [http://www.ieee802.org/3/cd/public/Jan18/mellitz\\_3cd\\_01a\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/mellitz_3cd_01a_0118.pdf)

- Author announced that he has an updated presentation '01a' with additional supporters and clarifying text. Kent asked if there was objection to it. No one responded.
- Discussed that ERL is conceptually a different processing of a return loss measurement.
- Reviewed the derivation of the weighting on slide 10, based on physical data not theoretical derivation. Discussed the terms  $\rho_x$  and  $\beta_x$  and what they indicate.

Break at ~3:30 p.m. Resume at ~4:05 p.m.

Kent Lusted asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

Kent Lusted reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Discussion on how to move forward on ERL:

- Editorially, it is time consuming to implement ERL in the draft but better to implement in D3.1 vs. a later draft.
- There was a request to see a more detailed implementation in order to better understand the significance of the impact to the Draft. Adeo Ran noted that he has a mockup.
- Considered making the Annex informative vs. normative.
- There was a request to see more ERL data with different packages.

Kent summarized the conversation as there was general support for ERL but that the solution as presented in insufficient. He also noted that there was much discussion on making ERL informative vs. normative.

Kent asked for a show of hands of participants that support the ERL concept and would like to see a mockup. Kent indicated that a majority of the room indicated favor.

Kent asked for a show of hands of participants that strongly object to proceeding with ERL. No one indicated against or spoke against ERL.



Kent asked Adeo Ran to make the ERL draft mockup available on the website. Kent noted that the ERL discussion will resume on Tuesday and determine the tradeoffs of informative vs. normative.

Comment resolution continued.

**Straw Poll #ET-1:**

See response to comment i-133 for details.

Kent Lusted announced a start time of 8:30 a.m. on Tuesday morning for the electrical track in this room (ITU C2). He also noted that the optical track will start at 8:30 a.m. in the CICG building. Mark Nowell will send the announcement to the email reflector.

Kent Lusted asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

Kent Lusted reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Matt Brown reviewed the progress of the day; progress was slower than expected. Participants should focus on addressing the comments and not save them for later.

Matt asked if there was objection to going until 7pm tonight to close a few more comments. No one responded.

Matt Brown asked if participants wanted to review daw\_e\_01 prior to resolving comment i-114. He noted that it was given in Working Group ballot and in an ad hoc meeting. No one responded.

Break for the day at ~7:15 p.m.

## **Optical Track**

By Mark Nowell

The optical track resumed at ~1:30 p.m. in the CICG C12 room. There were approximately 25 people in the room.

**Presentation #OT-1:**

“TDECQ and SECQ vs Rx sensitivity: review of previous presentations and proposed changes (comments i-58, i-82, i-83, i-84, i-79, i-80 i-81)”, Jonathan King

See: [http://www.ieee802.org/3/cd/public/Jan18/king\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/king_3cd_01_0118.pdf)

- Reviewed past presented data
- Presented conclusions that current D3.0 specifications provide reasonable correlation and are a good predictor of penalties

Moved to Room C1C1G 14

**Presentation #OT-2:**

“TDECQ Reference Receiver Main Tap Location”, Phil Sun

See: [http://www.ieee802.org/3/cd/public/Jan18/sun\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/sun_3cd_01_0118.pdf)

- Presented proposal to limit number of precursors
- No specific proposed text modifications to the specification were made
- Offline work to happen to bring proposed modification for comment resolution

**Presentation #OT-3:**

“Impact of oscilloscope frequency roll-off on TDECQ result”, Pavel Zivny

See: [http://www.ieee802.org/3/cd/public/Jan18/zivny\\_3cd\\_01a\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/zivny_3cd_01a_0118.pdf)

- Proposed a stricter definition around specification of BT filter.
- No comment has been submitted in D3.0 ballot to address this
- Pavel to work offline and in future ad hocs to proposed a consensus position to make changes

**Presentation #OT-4:**

“Threshold Adjustment for TDECQ Measurement”, Presented by Marco Mazzini

See: [http://www.ieee802.org/3/cd/public/Jan18/liu\\_3cd\\_01a\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/liu_3cd_01a_0118.pdf)

- Presented proposal on TDECQ threshold adjustment

Break at ~3:40 p.m. Resumed at ~4:00 p.m.

Discussion on how to move forward with resolving comments on TDECQ

- Not enough detail in the presentations and comments on what specifically would be editorially changed and implemented in the specification
- Concern raised that not enough information gathered yet on impact on receiver specs and current implementations
- Discussion on whether currently implemented receivers all implement threshold adjustments already. It was noted that not all do.
- Concerns raised that they do not have enough information to make a decision

- Comment that impact of change would be to allow transmitters with lower bandwidth, but restrict transmitters with poorer linearity

**Straw Poll #OT-1:**

I support working towards implementing a change to the specification to implement an optimization to TDECQ measurements.

Y: 14

N: 0

Need more information: 13

A few volunteers agreed to work together to create a “next steps” summary for the Task Force to review later. Consequence of Straw Poll is that the current TDECQ comments will be rejected and it is anticipated that interest exists in creating consensus around some optimization

Comment resolution begins

**Presentation #OT-5:**

“SECQ Test Method and Calibration Improvements”, Scott Schube

See: [http://www.ieee802.org/3/cd/public/Jan18/schube\\_3cd\\_01a\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/schube_3cd_01a_0118.pdf)

- Proposed modifications to SRS test to improve interoperability
- No specific proposal on editorial changes to specification

Meeting break @ 6:05pm

# IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force – January 23, 2018

*Prepared by Kent Lusted and Mark Nowell*

## **Electrical Track**

By Kent Lusted

Meeting resumed at ~8:35 a.m. by Kent Lusted.

Kent reviewed the plans for the day: hear presentations and resolve comments. He reviewed the estimated duration of the remaining comments and noted that the electrical track will suspend at the afternoon break to transition to the logic and cross-clause comments. Then the Task Force will address the remaining electrical comments.

Kent reminded participants that an ERL draft mockup contribution from Adeo Ran was posted to the website, as announced over the email reflector. This contribution is to facilitate a discussion on ERL after lunch.

Kent reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Kent asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

### **Presentation #ET-2:**

“Transmitter specifications and COM for 50GBASE-CR updated”, Mike Dudek

See: [http://www.ieee802.org/3/cd/public/Jan18/dudek\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/dudek_3cd_01_0118.pdf)

- Discussed the results in the table on slide 6.
- Reviewed the proposed changes on slide 10. Industry is trending to lower impedance packages and boards.
- Proposal attempts to change the TX spec to produce the desired COM value.
- Reviewed the differences between case1 and case2.
- Discussed the impact of the changes to the cables and host.

**Presentation #ET-3:**

“SNDR and uncorrelated jitter limits at TP2 ( in support of comments i-105 and i-106)”, Adam Healey

See: [http://www.ieee802.org/3/cd/public/Jan18/healey\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/healey_3cd_01_0118.pdf)

- It was noted that measurement at TP2 attempts to characterize the influence of the host channel.
- There is a difference in the SNDRtx assumption when compared to the dudek\_01 presentation.

Kent noted that the optical track is on recess to allow some offline work to happen and will reconvene @ 2pm in CICG to close out their remaining comments. After the afternoon break (~3:20 p.m.), the full Task Force will resume in Room C2 to continue with comment resolution looking at some common topics then the jitter comments. After jitter, the Task Force will continue to focus on electrical topics.

Kent noted that the Task Force was currently expected to meet on Wednesday morning to address cross-clause comments and closing business.

Comment resolution resumed.

Break at ~10:40 a.m. Resumed at ~11:00 a.m.

Kent reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Kent asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor, and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

Estimated room count for the next 4 straw polls was ~32 people.

**Straw Poll #ET-2:**

The straw poll was on the TX\_SNDR value in dudek\_3cd\_01\_0118. See comment #i-161 response for details. Kent asked if there was objection to resolving the comment in favor of the response of “SNDR = 32.2 dB”. No one responded.

**Straw Poll #ET-3:**

The straw poll was on the COM parameters and COM pass/fail values in dudek\_3cd\_01\_0118. See comment #i-161 response for details. There was a recount of this straw poll after discussion. Kent asked if there was objection to resolving the comment in favor of the response of “COM parameters” (Rd, Zc of package, Av/Afe,

Ane), and do not change the Zc for the PCB". No one responded.

**Straw Poll #ET-4:**

The straw poll was on the COM parameters in dudek\_3cd\_01\_0118. See comment #i-161. Kent asked if there was objection to resolving the comment in favor of the response of "Accepting all sub-bullets". No one responded.

**Straw Poll #ET-5:**

The straw poll was on the COM pass/fail for cable criteria in dudek\_3cd\_01\_0118. See comment #i-161. Kent asked if there was objection to resolving the comment in favor of the response of "No change to the COM pass/fail cable criteria". No one responded.

Break at ~12:15 p.m. Resumed at ~1:15 p.m.

Comment resolution resumed.

There was a request to revisit the decision to change Clause 136/137 jitter J4u to J3u when discussing comment #i-140. Matt Brown noted that the decision was made on Monday when that specific comment was closed. There was further discussion. Adee Ran asked for a show of hands to indicate support for reopening the comment. There was insufficient consensus to reopen it. It was noted that participants could file a comment against Draft 3.1 on the change to J3u.

Adee Ran displayed the ERL mockup contribution that was posted to the website and reviewed the additional text for Effective Return Loss. (see: <http://www.ieee802.org/3/cd/public/Jan18/8023cd-anx93A-ERL-proposal.pdf>)

Matt Brown reviewed the plans for the rest of the day: address common and logic topics after break, discuss jitter, then return to electrical comments.

Break at ~3:05 p.m. The electrical track would resume as the complete task force.

## **Optical Track**

By Mark Nowell

Meeting resumed at Tuesday Jan 23rd @ ~8:40 a.m. by Mark Nowell.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Chair asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

**Presentation #OT-6:**

“Proposal to modify the SRS test for 100GBASE-DR”, David Lewis

See: [http://www.ieee802.org/3/cd/public/Jan18/lewis\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/lewis_3cd_01_0118.pdf)

- Proposed new figure for SRS test

Discussion on proposed SRS changes. The two proposals to change SRS were:

- Lewis proposal - requires an equation to be developed to describe limits instead of just a graph. Offline work needed to come up with a proposal.
- Schube proposal - more work needed to fill out proposal. General interest indicated in working towards a better understanding (from more data) to enable a consensus proposal. Scott to work towards a consensus position being prepared for D3.1 recirculation and March meeting

Comment resolution continues

**Presentation #OT-7:**

“Some 50 Gb/s PAM4 VCSEL results”, Jonathan King

See: [http://www.ieee802.org/3/cd/public/Jan18/king\\_3cd\\_02\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/king_3cd_02_0118.pdf)

- Reviewed 50 Gb/s PAM4 VCSEL experimental results

**Presentation #OT-8:**

“TDECQ: main tap constraints”, Jonathan King

See: [http://www.ieee802.org/3/cd/public/Jan18/king\\_3cd\\_03\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/king_3cd_03_0118.pdf)

- Reviewed proposed text to address TDECQ precursor comments (i-107, i-108, i-117, i-118)

Meeting Break @ 10:40am

Meeting reconvenes @ 2:10pm

Comment resolution resumes.

**Presentation #OT-9:**

“TDECQ: main tap constraints”, Jonathan King

See: [http://www.ieee802.org/3/cd/public/Jan18/king\\_3cd\\_04\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/king_3cd_04_0118.pdf)

- Reviewed proposed text to address SRS test (comment i-78)
- Comment was specifically for Clause 140, general agreement to extend comment response to make same changes to Clause 138 and 139 (with editorial license)

Discussion on aligning 802.3cd with any changes in the 802.3cj Revision project with the inclusion of 802.3bs:

- 802.3bs will be rolled into 802.3cj Revision project for the D3.1 recirculation
- This section will be in scope for comments against 802.3cj if comments were submitted to make changes based on .3cd changes.
- For changes already accepted into 802.3cd, it is probably appropriate to assume comments could (should) be submitted against 802.3cj. This would be the TDECQ precursor change and the SRS test change summarized in proposed in [http://www.ieee802.org/3/cd/public/Jan18/king\\_3cd\\_03\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/king_3cd_03_0118.pdf) and [http://www.ieee802.org/3/cd/public/Jan18/king\\_3cd\\_04\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/king_3cd_04_0118.pdf).
- The work left ahead for 802.3cd (TDECQ adjustable thresholds and SRS additional tests) could be considered as comments into 802.3cj assuming there was strong consensus demonstrated through ad hocs etc before March Plenary

Comment resolution ends

Optical track adjourns @ 2:45pm

Resumed as a complete Task Force (not in tracks) at 3:25 p.m.

Comment resolution continued.

### **Presentation #3:**

“Consideration for CRU BW (re: comments i-61 and i-115)”, Ali Ghiasi

See: [http://www.ieee802.org/3/cd/public/Jan18/ghiasi\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/ghiasi_3cd_01_0118.pdf)

- Many clarifying questions were asked and answered.
- Discussed the alleged presence of low-frequency jitter and the impact to a PLL.

Chair and Chief Editor discussed the path forward on the jitter topic. Chair indicated his sense of the room was that there is no interest to make a change. Matt Brown asked for a show of hands if a technical change should be made to the jitter specification - Matt noted that 3 hands indicated. Matt asked for a show of hands against technical changes - approximately half of the room raised hands. Matt summarized that there was no consensus to make any technical changes to the jitter specification. There was a request for a straw poll.

### **Straw Poll #1:**

I would support making a technical change to the jitter specification.

Y:4 N: 21



Based upon the results of the Straw Poll, the Chief Editor noted that clearly was no support for making technical changes to the jitter specification. It was determined that the daw\_3cd\_01\_0118 presentation was no longer necessary because it proposed technical changes to jitter.

Discussed if there was need to add a note in the specification and what the potential note would contain.

Matt Brown observed that there appears to be a direction for the Task Force to pursue with respect to jitter and asked Jeff Maki to lead the consensus building group to provide a recommendation on the note.

Chair noted that the late contribution from Piers Dawe has been updated to version '02a'. Piers Dawe reviewed the options on slide 8 of

[http://www.ieee802.org/3/cd/public/Jan18/dawe\\_3cd\\_02a\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/dawe_3cd_02a_0118.pdf)

Matt Brown summarized that the results of Straw Poll #1 remove options 1-4 from the solution because there was no consensus to make technical changes. Matt Brown stated that the jitter comments (61, 85, 87, 115) would be deferred until later in the interest of time and asked participants to work offline to propose the text for the note prior to the end of comment resolution.

Matt Brown outlined the plans for the rest of the day: close electrical comments.

Chair announced an 8:30 a.m. start time on Wednesday.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Chair asked participants to review the proposed responses for the "bucket worthy" comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

There was a request to publish on the website a file with the comments closed to date for review. Matt Brown agreed to make it. (see:

[http://www.ieee802.org/3/cd/public/Jan18/8023cd\\_D30\\_comment\\_report\\_snapshot.pdf](http://www.ieee802.org/3/cd/public/Jan18/8023cd_D30_comment_report_snapshot.pdf) )

Comment resolution continued.

Discussed and reviewed the summary of changes for Effective Return Loss (see [http://www.ieee802.org/3/cd/public/Jan18/ran\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/ran_3cd_01_0118.pdf) )

Comment resolution continued.

Chair noted that the start time of 8:30 a.m. on Wednesday was announced over the email reflector.

Chair noted that the ERL change summary was posted to the website. (see [http://www.ieee802.org/3/cd/public/Jan18/ran\\_3cd\\_01\\_0118.pdf](http://www.ieee802.org/3/cd/public/Jan18/ran_3cd_01_0118.pdf) )

Break for the day at 7:30 p.m.

# IEEE P802.3cd 50 Gb/s, 100 Gb/s, 200 Gb/s Ethernet Task Force – January 24, 2018

*Prepared by Kent Lusted*

Meeting convened at ~8:35 a.m. by Mark Nowell.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool and the attendance book.

Chair asked participants to review the proposed responses for the “bucket worthy” comments and notify the Chair, the Chief Editor and the Recording Secretary of any comments that should be addressed on the Task Force floor. The proposed responses to the unresolved bucket comments will be adopted in a motion during closing business.

Chair made the last call to pull a comment from the bucket comments. No one responded. Chair stated that no more comments can be pulled from the bucket.

Chair outlined the plans for the day.

Chief Editor reviewed the remaining comments that need resolution.

Comment resolution resumed.

## **Straw Poll #2:**

See comment #i-156 in the comment database.

There was a request to reopen comment #i-142 to address a change in the response that is related to comment #i-170. No one responded.

Break at ~10:10 a.m. Resumed at ~10:35 a.m.

Chair noted that the ad hocs will move to weekly as announced over the reflector by Kent Lusted.

Chair noted that the updated COM model from Rich Mellitz with ERL will be posted to the webpage soon. Chair noted that Rich offered to hold con calls on the ERL topic.

## **Motion #3:**

- Move to:

- Accept the proposed responses to any unresolved comments listed in 8023cd\_D30\_comment\_proposed\_responses\_bucket\_list\_v2.pdf
- Generate Draft 3.1 from Draft 3.0 and closed comments
- M: Matt Brown
- S: Arthur Marris
- Technical ( $\geq 75\%$ ),
- Y: 35 N: 0 A: 5
- Results: passes 10:40 a.m.

#### **Attendance Straw Polls**

- I will attend the IEEE P802.3cd meetings at the March plenary in Chicago/Rosemont, IL, USA (week of March 4, 2018)
  - P802.3cd: Y: 36 , M: 5
- I will attend the IEEE P802.3cd meetings at the May interim in Pittsburgh, PA, USA (week of May 21, 2018)
  - P802.3cd: Y: 24 , M: 12

#### **Motion #4:**

Move to Adjourn:

- Moved by: Steve Trowbridge
- Second by: Mike Li
- Passed by voice vote without opposition

Meeting ended at ~10:45 a.m.

## Attendees

P802.3cd, January 2018			22-Jan-18	23-Jan-18	24-Jan-18
Last Name	First Name	Affiliation	Monday	Tuesday	Wednesday
Anslow	Pete	Ciena Corporation	x	x	
Baldwin	Thananya	Ixia	x		
Ben Artsi	Liav	Marvell Semiconductor	x	x	x
Braun	Ralf-Peter	Deutsche Telekom		x	x
Brooks	Paul	Viavi Solutions	x	x	
Brown	Matt	MACOM	x	x	x
Butter	Adrian	Global Foundries	x	x	x
Calvin	John	VTM	x	x	
Chang	Frank	Inphi	x		
Chen	C. C. David	Applied Optoelectronics	x	x	
Cole	Chris	Finisar	x		
D'Ambrosia	John	FutureWei, Subsidiary of Huawei		x	
Dawe	Piers	Mellanox	x	x	x

DiMinico	Christopher	MC Communications/Panduit	x	x	
Dudek	Mike	Cavium	x	x	x
Estes	Dave	Spirent Communications	x		x
Ewen	John	Global Foundries	x	x	x
Ghiasi	Ali	Ghiasi Quantum, Huawei	x		
Goldberg	Jonathan	IEEE-SA	x		
Gong	Zhigang	O-net	x		
Gorshe	Steve	microsemi	x	x	
Gustlin	Mark	Xilinx	x	x	x
Harwood	Mike	HZD Consulting			x
Hayakawa	Akinori	Fujitsu Laboratories	x	x	x
Healey	Adam	Broadcom Limited	x	x	
Heck	Howard	Intel	x	x	x
Hegde	Raj	Broadcom	x	x	x
Huang	Xi	Huawei	x	x	x
Ingham	Jonathan	Foxconn Interconnect Technology			x

Isono	Hideki	Fujitsu Optical Components	x	x	x
Issenhuth	Tom	Huawei	x	x	x
Johnson	John	Broadcom	x		
Kareti	Upen Reddy	Cisco	x	x	
Kimber	Mark	Semtech		x	x
Klempa	Mike	UNH-IOL	x	x	
Kochuparambil	Beth	Cisco	x	x	x
Lapak	Jeff	UNH-IOL	x	x	
LeCheminant	Greg	Keysight Technologies	x		
Lewis	Dave	Lumentum	x		
Li	Mike	Intel	x	x	x
Lim	Jane	Cisco	x	x	
Liu	Hai-Feng	Intel	x	x	
Liu	Karen	Kaiaam	x	x	x
Lusted	Kent	Intel	x	x	x
Maki	Jeffery	Juniper Networks	x	x	x
Marris	Arthur	Cadence	x	x	x
Matoglu	Erdem	Amphenol	x	x	x
Mazzini	Marco	Cisco	x		

McSorley	Greg	Amphenol	x	x	x
Mellitz	Richard	Samtec	x	x	x
Nakamoto	Edward	Spirent Communications	x	x	x
Nowell	Mark	Cisco	x	x	x
Ofelt	David	Juniper Networks	x	x	
Palkert	Tom	Molex - MACOM	x	x	x
Pepper	Gerald	Ixia	x		
Pydimarri Venkata	Sreekanth	Indian Railways	x	x	x
Ran	Adee	Intel	x	x	x
Rysin	Alexander	Mellanox	x	x	x
Sakai	Toshiaki	Socionext	x	x	
Schube	Scott	Intel	x		
Shirao	Mizuki	Mitsubishi Electric		x	
Sommers	Scott	Molex	x	x	x
Sprague	Ted	Infinera	x		x
Srivastava	Atul	NTT Electronics	x		
Stassar	Peter	Huawei	x	x	x
Stone	Rob	Broadcom	x	x	
Sun	Liyang	Huawei	x		
Sun	Phil	Credo	x	x	



Szczepanek	Andre	HS2 Consulting			x
Takahara	Tomoo	Fujitsu Laboratories	x	x	x
Tamura	Kohichi	Oclaro	x	x	x
Tracy	Nathan	TE Connectivity	x	x	x
Trowbridge	Steve	Nokia	x	x	x
Vitali	Marco	Sicoya	x	x	
Wang	Roy	HPE	x		x
Yamamoto	Shuto	NTT	x	x	
Zhang	Yiun	Huawei	x		
Zhang	Yuanbin	ZTE		x	
Zivny	Pavel	Tektronix	x	x	x