

# IEEE P802.3df 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Ethernet Task Force

Approved Meeting Minutes, prepared by John D'Ambrosia, Mark Nowell, and Kent Lusted

## 27 September 2022

October Electronic meeting

IEEE P802.3df Task Force September 2022 Meeting Task Force Page -

[https://www.ieee802.org/3/df/public/22\\_10/index.html](https://www.ieee802.org/3/df/public/22_10/index.html)

Session called to order at 9:30 am ET (all times ET), 27 September 2022

Meeting called to order by John D'Ambrosia, IEEE P802.3df Task Force Chair

### Presentation #1

Title	Agenda and General Information
Presenters	John D'Ambrosia
URL	<a href="https://www.ieee802.org/3/df/public/22_10/agenda_3df_2210.pdf">https://www.ieee802.org/3/df/public/22_10/agenda_3df_2210.pdf</a>

Chair welcomed everyone to the meeting.

Chair reminded participants to declare their affiliation in the online meeting tool.

Chair reviewed the agenda (Slide #2) and noted presentation order on Slides #3 thru 5. Chair noted that individuals should check the webpage for the latest version of each presentation. Chair noted that all the presentation times were subject to change.

Chair asked if there were any objections to the agenda, and there were none. The agenda was considered approved by unanimous consent.

Minutes –

- September 2022 session - [https://www.ieee802.org/3/df/public/22\\_09/minutes\\_3df\\_2209\\_unapproved.pdf](https://www.ieee802.org/3/df/public/22_09/minutes_3df_2209_unapproved.pdf)

Chair asked if there were any corrections or modifications. There were none. Chair asked if there were any objections to approving the minutes. There were none, and the minutes were considered approved by unanimous consent.

Chair reviewed meeting decorum. (See Slide #6.) Chair asked if there were any members of the press present. No one responded.

Chair reviewed attendance. (See Slide #7.)

Chair reviewed the Task Force Project Information / Organization. (See Slide #8).

Chair reviewed ground rules. (See Slide #9.)

Chair reviewed the current state of the Task Force. (See Slide #10.)

Chair reviewed voting in the task force. (See Slide #11.)

Slide #12 - Chair noted that the information regarding the IEEE SA Policies had been sent out via the Task Force reflector (see: <https://www.ieee802.org/3/B400G/email/msg00403.html>), and requested that individuals review the following IEEE SA policies prior to the interim meeting –

- IEEE SA Patent policy
- IEEE SA Copyright Policy
- IEEE SA Participation Policy

Chair asked if anyone needed to review the policies at that time – there were no requests to do so.

Chair presented the third slide (See Slide #34) of the IEEE SA Patent Policy slides. Chair did call for Potentially Essential Patents, and no one came forward.

Chair presented the second slide (See Slide #39) of the IEEE SA Copyright Policy slides. Chair noted – “By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.”

Chair presented the second slide (See Slide #43) of the IEEE SA Participation Policy slides. Chair noted – “Participants in the IEEE-SA “individual process” shall act independently of others, including employers. By participating in standards activities using the “individual process”, you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation.”

Chair noted there was one liaison from the OIF for the Task Force to consider (see: Slide #13, [https://www.ieee802.org/3/df/public/22\\_09/OIF\\_liaison\\_letter\\_IEEE803.2\\_800LR\\_29Aug22\\_Redacted.pdf](https://www.ieee802.org/3/df/public/22_09/OIF_liaison_letter_IEEE803.2_800LR_29Aug22_Redacted.pdf) ).

Chair noted that the liaison would be considered at the November Plenary meeting. Chair would prepare a draft liaison communication for the Task Force to consider and post it on the website.

Chair reviewed the status of the Architecture & Logic, Electrical, and Optics ad hocs. See Slides #14-16.

Chair reviewed the future meetings. See slides #17-18.

At 9:53 a.m., John D’Ambrosia passed the meeting Chair responsibilities to Mark Nowell.

#### **Presentation #2:**

Title	Updated 802.3df/3df PARs
Presenters	John D’Ambrosia
URL	P802.3df Proposed PAR Modification: <a href="https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3df_Proposedb_220927.pdf">https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3df_Proposedb_220927.pdf</a>  P802.3dj Proposed PAR: <a href="https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3dj_Proposed_220927.pdf">https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3dj_Proposed_220927.pdf</a>

Questions of clarification were addressed. In the P802.3dj Proposed PAR review (see [https://www.ieee802.org/3/df/public/22\\_10/22\\_0927/PAR\\_P802p3dj\\_Proposed\\_220927.pdf](https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3dj_Proposed_220927.pdf)), a grammatical error was noted in Section 7.1: “efforts” should be “effort”. Chair offered to correct it using an editorial license and asked if there was opposition to the approach. There was support for the approach and no one objected. The updated version ‘Proposeda’ made the change. ([https://www.ieee802.org/3/df/public/22\\_10/22\\_0927/PAR\\_P802p3dj\\_Proposeda\\_220927.pdf](https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3dj_Proposeda_220927.pdf))

<b>Motion #1</b>	<p>Move to adopt</p> <ul style="list-style-type: none"> <li>● For the modified IEEE P802.3df PAR <ul style="list-style-type: none"> <li>○ The PAR responses in PAR_P802p3df_Proposedb_220927.pdf</li> <li>○ The CSD “Managed Objects”, “Coexistence”, “Broad Market Potential”, “Compatibility”, “Distinct Identity”, “Technical Feasibility”, and “Economic Feasibility” responses, as per <a href="https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_04a_2209.pdf">https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_04a_2209.pdf</a></li> </ul> </li> <li>● For the new IEEE P802.3dj PAR <ul style="list-style-type: none"> <li>○ The PAR responses in PAR_P802p3dj_Proposedda_220927.pdf</li> <li>○ The CSD “Managed Objects”, “Coexistence”, “Broad Market Potential”, “Compatibility”, “Distinct Identity”, “Technical Feasibility”, and “Economic Feasibility” responses, as per <a href="https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_07b_2209.pdf">https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_07b_2209.pdf</a></li> </ul> </li> </ul>
<b>Technical (&gt;= 75%)</b>	
<b>Moved by</b>	Jim Weaver
<b>Second by</b>	Beth Kochuparambil
<b>Results 802.3 (y/n/a)</b>	Passed by unanimous consent 10:08 a.m.

**Presentation #3:**

Title	802.3df/802.3df Next Steps
Presenters	John D’Ambrosia
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0927/dambrosia_3df_01_220927.pdf">https://www.ieee802.org/3/df/public/22_10/22_0927/dambrosia_3df_01_220927.pdf</a>

At 10:10 a.m., Mark Nowell passed the meeting Chair responsibilities to John D’Ambrosia.

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

**Presentation #4:**

Title	200G/lane Electrical interface and PMDs – Update
Presenters	Kent Lusted
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0927/lusted_3df_01_220927.pdf">https://www.ieee802.org/3/df/public/22_10/22_0927/lusted_3df_01_220927.pdf</a>

Questions of clarification were addressed.

Chair reminded participants that the Task Force was a contribution driven organization. He also reminded participants that the Chair’s responsibility was to drive forward progress.

**Presentation #5:**

Title	Exploring 200 Gb/s PAM4 Reference Packages and COM Considerations for C2M and CR
Presenters	Rich Mellitz
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0927/mellitz_3df_01a_220927.pdf">https://www.ieee802.org/3/df/public/22_10/22_0927/mellitz_3df_01a_220927.pdf</a>

Questions of clarification were addressed.

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

**Presentation #6:**

Title	A balance approach to PCB and Package Losses
Presenters	Ali Ghiasi
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0927/ghiasi_3df_01_220927.pdf">https://www.ieee802.org/3/df/public/22_10/22_0927/ghiasi_3df_01_220927.pdf</a>

Questions of clarification were addressed.

Chair noted that he found the same grammatical error in the P802.3df Proposed PAR modification while making the update to the P802.3dj Proposed PAR. The grammatical error was noted in Section 7.1: “efforts” should be “effort”. Chair offered to correct it using an editorial license and asked if there was opposition to the approach. No one objected. The updated version ‘Proposedc’ made the change.

[https://www.ieee802.org/3/df/public/22\\_10/22\\_0927/PAR\\_P802p3df\\_Proposedc\\_220927.pdf](https://www.ieee802.org/3/df/public/22_10/22_0927/PAR_P802p3df_Proposedc_220927.pdf) )

Chair asked Kent Lusted to add a note to the motion and straw poll slide with motion #1 indicating the editorial license granted to make the changes to the P802.3df Proposed PAR modification and the P802.3dj Proposed PAR.

Meeting recessed for the day at 12:29 p.m.

## 28 September 2022

Session reconvened at 9:30 am on 28 September.

Chair made opening comments and reviewed the plans for the day.

Chair noted that there were updated presentations from Brandon Gore and Xinyuan Wang posted to the website. (see: [https://www.ieee802.org/3/df/public/22\\_10/index.html](https://www.ieee802.org/3/df/public/22_10/index.html))

Chair reminded participants to declare their affiliation in the online meeting tool.

Chair reminded all participants to sign into the IEEE Meeting Attendance Tool.

### Presentation #7:

Title	Measurement Evaluation of PCB Electrical Performance for 200 Gb/s PAM4
Presenters	Brandon Gore
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0928/gore_3df_01b_220928.pdf">https://www.ieee802.org/3/df/public/22_10/22_0928/gore_3df_01b_220928.pdf</a>

Questions of clarification were addressed.

### Presentation #8:

Title	200 Gb/s per lane AUI performance summary and implications on the architecture
Presenters	Adee Ran
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0928/ran_3df_01_220928.pdf">https://www.ieee802.org/3/df/public/22_10/22_0928/ran_3df_01_220928.pdf</a>

Questions of clarification were addressed.

### Presentation #9:

Title	FEC Performance for 200 Gb/s per Lane Electrical PHY and Interoperating
Presenters	Xinyuan Wang
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_0928/wang_3df_01b_220928.pdf">https://www.ieee802.org/3/df/public/22_10/22_0928/wang_3df_01b_220928.pdf</a>

Questions of clarification were addressed.

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

Break at ~11:06 a.m. Resumed ~11:10 a.m.

Chair reminded participants that the operation of the Task Force has to be balanced between democratic procedures and forward progress. (see slide #22 of agenda).

Chair reminded the group of the role of the chair and reminded individuals that the Task Force was a contribution driven organization. He advised individuals to bring forward contributions on topics that they want to progress.

### Straw Poll #1:

For the front panel pluggable use case, I am interested in 200 Gbps/lane AUI C2M specifications for:

- A. medium loss only (e.g. up to ~22 dB IL die-die per lusted\_3df\_01\_220927)
- B. higher loss only (e.g. up to ~36 dB IL die-die per lusted\_3df\_01\_220927)
- C. both medium and higher loss
- D. need more information

(pick one)

Results: A: 17, B: 11, C: 49, D: 12

**Straw Poll #2:**

For the front panel pluggable use case, I am interested in 200 Gbps/lane AUI C2M specifications for:

- a. medium loss only (e.g. up to ~22 dB IL die-die per lusted\_3df\_01\_220927)
- b. higher loss only (e.g. up to ~36 dB IL die-die per lusted\_3df\_01\_220927)
- c. both medium and higher loss
- d. need more information

(chicago rules)

Results: A: 29, B: 29, C: 66, D: 24

**Straw Poll #3:**

I'm interested in 200 Gbps/lane AUI C2M specifications for co-packaged or near-packaged use cases

Y: 54 , N: 10 , A: 22

Chair noted that he would be calling on participants to bring contributions on the co-package and near-package cases for consideration by the Task Force.

Chair reviewed the presentation agenda for 4 and 5 October.

Session recessed for the day at 12:30 p.m.

#### 4 October 2022

Session reconvened at 9:32 am on 4 October.

Chair made opening comments and reviewed the plans for the day. Chair noted that the agenda was updated to reflect the updated meeting order for 4 October. (see: [https://www.ieee802.org/3/df/public/22\\_10/agenda\\_3df\\_a\\_2210.pdf](https://www.ieee802.org/3/df/public/22_10/agenda_3df_a_2210.pdf))

Chair reminded remote participants to declare their affiliation in the online tool.

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

#### Presentation #10:

Title	800GbE PCS/FEC/PMA Baseline Proposal
Presenters	Kapil Shrikhande
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1004/shrikhande_3df_01a_221004.pdf">https://www.ieee802.org/3/df/public/22_10/22_1004/shrikhande_3df_01a_221004.pdf</a>

At the start of the presentation, the author noted that Mau-Lin Wu and Brad Booth were additional supporters not listed in version '01'. Chair asked the author to provide an updated version '01a' for posting to the website. Questions of clarification were addressed.

<b>Motion #2 - 8x100 800GbE</b>	Move to adopt shrikhande_3df_01a_221004.pdf as the baseline for the 800GbE PCS/FEC/PMA Baseline Proposal for PHYs using 8 x 100G PMD lanes
<b>Technical (&gt;= 75%)</b>	
<b>Moved by</b>	Eugene Opsasnick
<b>Second by</b>	Xinyuan Wang
<b>Results 802.3 (y/n/a)</b>	motion passed by unanimous consent. 10:05 a.m.

Chair reviewed the proposed timeline for the IEEE P802.3df Task Force in [https://www.ieee802.org/3/df/public/22\\_09/dambrosia\\_3df\\_01b\\_2209.pdf](https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_01b_2209.pdf)

<b>Motion #3 - timeline</b>	Move to adopt timeline for IEEE P802.3df noted on Slide 4 of <a href="https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_01b_2209.pdf">https://www.ieee802.org/3/df/public/22_09/dambrosia_3df_01b_2209.pdf</a>
<b>Technical (&gt;= 75%)</b>	
<b>Moved by</b>	Jim Weaver
<b>Second by</b>	Joshua Kim
<b>Results 802.3 (y/n/a)</b>	motion passed by unanimous consent. 10:11 a.m.

<b>Motion #4 - TF review start</b>	Move that the IEEE P802.3df Task Force: <ul style="list-style-type: none"><li>● Generate P802.3df Draft 1.0 based on the contributed Draft 0.2 and the subsequent adopted baselines (e.g. lusted_3df_01a_2209 and shrikhande_3df_01a_221004)</li><li>● Initiate Task Force Review</li></ul>
<b>Technical (&gt;= 75%)</b>	
<b>Moved by</b>	Matt Brown
<b>Second by</b>	Peter Stassar
<b>Results 802.3 (y/n/a)</b>	motion passed by unanimous consent. 10:15 a.m.

Chair and Chief Editor outlined the next steps for the draft and the initial task force review.

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

**Presentation #11:**

Title	CI 73 AN Future Considerations – Phase 2
Presenters	Kent Lusted
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1004/lusted_3df_01_221004.pdf">https://www.ieee802.org/3/df/public/22_10/22_1004/lusted_3df_01_221004.pdf</a>

Questions of clarification were addressed. Chair noted that the presentation was within scope of the IEEE P802.3df Task Force and would apply to the future IEEE P802.3dj Task Force if approved.

**Straw Poll #4:**

I would support the Clause 73 changes as proposed in lusted\_3df\_01\_221004.pdf, slide 8-17.

Results: Y: 48 , N: 1 , Need More Information: 12 , A: 24

Chair reminded participants of the presentations scheduled for 5 October.

Chair reminded participants of the future meetings. He noted that the Task Force would meet at the IEEE 802 November 2022 plenary session and that a paid registration fee was required to attend.

Session recessed for the day at 10:47 a.m.

## 5 October 2022

Session reconvened at 9:30 am on 5 October.

Chair made opening comments and reviewed the plans for the day. (see: [https://www.ieee802.org/3/df/public/22\\_10/agenda\\_3df\\_a\\_2210.pdf](https://www.ieee802.org/3/df/public/22_10/agenda_3df_a_2210.pdf))

Chair noted that there was an updated presentation version '01a' from Eugene Opsasnick with editorial updates and it was posted to the website. (see: [https://www.ieee802.org/3/df/public/22\\_10/index.html](https://www.ieee802.org/3/df/public/22_10/index.html))

Chair noted that the next meeting would be located in Thailand and he would share entry visa related information from the IEEE 802 EC via the email reflector.

Chair reminded participants that the deadline for the 11-12 October meetings was 5 October AoE.

Chair reminded participants to declare their affiliation in the online tool.

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

### Presentation #12:

Title	Proposal for Stateless 64B/66B Encode/Decode for 800GbE and 1.6TbE
Presenters	Eugene Opsasnick
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1005/opsasnick_3df_01a_221005.pdf">https://www.ieee802.org/3/df/public/22_10/22_1005/opsasnick_3df_01a_221005.pdf</a>

Questions of clarification were addressed.

### Presentation #13:

Title	Low latency options for 800GBASE-DR4
Presenters	Bill Simms
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1005/simms_3df_01_221005.pdf">https://www.ieee802.org/3/df/public/22_10/22_1005/simms_3df_01_221005.pdf</a>

Questions of clarification were addressed.

### Presentation #14:

Title	Proposal for a specific (128,120) extended inner Hamming code with lower power and lower latency soft Chase decoding than textbook codes
Presenters	Will Bliss
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1005/bliss_3df_01_220929.pdf">https://www.ieee802.org/3/df/public/22_10/22_1005/bliss_3df_01_220929.pdf</a>

Questions of clarification were addressed.

Break at 11:21 a.m. Resumed at 11:27 a.m.

Chair noted that the webpage for the October session was updated with the motions and straw polls from 4 October (see: [https://www.ieee802.org/3/df/public/22\\_10/motions\\_3df\\_221004.pdf](https://www.ieee802.org/3/df/public/22_10/motions_3df_221004.pdf))

Chair also noted that the key motions summary on the website was updated, too. (see: [https://www.ieee802.org/3/df/KeyMotions\\_3df\\_221005.pdf](https://www.ieee802.org/3/df/KeyMotions_3df_221005.pdf))

### Presentation #15:

Title	Constructing a BCH/Hamming Inner Code for 200G/lane PHYs
Presenters	Xiang He
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1005/he_3df_01_221005.pdf">https://www.ieee802.org/3/df/public/22_10/22_1005/he_3df_01_221005.pdf</a>

Questions of clarification were addressed.

Chair noted that the November plenary meeting for the P802.3df Task Force would not use separate tracks.

Chair noted that decisions on the proposed P802.3dj Task Force could not be made until the Task Force formation was approved.

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

Chair reminded participants to declare their employer and affiliation in the online meeting tool as well as the IEEE Meeting and Attendance Tool.

Chair reminded participants that the deadline for the 11-12 October meetings was 5 October AoE.

Session recessed for the day at 12:00 pm.

## 11 October 2022

Session reconvened at 9:31 am on 11 October.

Chair made opening comments and reviewed the plans for the day. (see: [https://www.ieee802.org/3/df/public/22\\_10/agenda\\_3df\\_a\\_2210.pdf](https://www.ieee802.org/3/df/public/22_10/agenda_3df_a_2210.pdf))

Chair provided participants with the user credentials for the Task Force private area. The draft was for review purposes and should not be shared.

Chair reminded participants to declare their affiliation in the online tool.

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

Chair reviewed the presentations scheduled for 11 October and 12 October. (see slide #5). Chair received an updated presentation version '01a' from Tom Williams that included more aspects of the PHY baseline proposal and editorial changes. Chair asked if there was objection to hearing the updated version '01a'. No one responded. Chair would update the Task Force website with the new version.

Chair noted that the straw polls and motions on the schedule were time permitting. Chair would be enforcing time restrictions accordingly.

Eric Maniloff asked the Chair if the co-author Tom Williams could speak during his presentation. Chair granted permission.

Chair noted that there was a contribution from Frank Chang on relative cost analysis. Based on his review, the Chair referred the contribution to the IEEE 802.3 Working Group Chair, David Law. Mr Law summarized the IEEE guidelines related to cost comparison in contributions. If a contribution goes outside the guidelines, Mr. Law passes to IEEE risk management for a review. (See checklist: <http://sagroups.ieee.org/2023/wp-content/uploads/sites/67/2020/06/Copyright-Best-Practices-for-WG-Chairs.pdf> ) Mr. Law had submitted the contribution for review. The IEEE risk management group had not yet provided a response on the risk assessment for the Frank Chang contribution. Mr. Law noted that one review that he recalled took approximately a week to complete and reminded participants that contributions outside the guidelines need to be submitted well in advance of the timeline.

Chair noted that it was unclear whether the review would be completed prior to the 12 Oct Meeting. Chair sought guidance from the Task Force on how to proceed regarding the Frank Chang contribution and provided a few options for consideration by the group. A participant expressed concern with seeing the contribution because it had not been posted for review prior to the meeting.

Chair asked Frank Chang if he was willing to consider withdrawing the contribution. Frank asked to withdraw the contribution from the 12 October session and reschedule it for the November Plenary session. Mr. Law and the Task Force Chair would continue to pursue the IEEE risk management review of the contribution for the November meeting. Mr. Law and the Task Force Chair would work to prepare guidelines for future submissions.

Mr. Law reiterated the importance of early submission to IEEE risk management for contributions with cost analysis that go outside the guidelines provided.

Vice Chair reminded participants to declare their affiliation in the online meeting tool.

### Presentation #16:

Title	Continuing Work on Baseline Proposals for 200G/L 500m and 2km objectives
Presenters	Brian Welch
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1011/welch_3df_01a_221011.pdf">https://www.ieee802.org/3/df/public/22_10/22_1011/welch_3df_01a_221011.pdf</a>

Author noted that "TDECQ" should be "TECQ" on slide 4 and elsewhere in the contribution. Author would provide an updated version '01a' with the correction. Questions of clarification were addressed.

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

**Presentation #17:**

Title	Towards baseline proposals for 200 Gb/s per lane optical PMDs supporting 500 m and 2 km reaches
Presenters	Jonathan Ingham
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1011/ingham_3df_01_221011.pdf">https://www.ieee802.org/3/df/public/22_10/22_1011/ingham_3df_01_221011.pdf</a>

Questions of clarification were addressed.

Prior to the start of the next presentation, John Johnson noted that he had an updated version '01a' that fixed a typographical error. He would provide the Chair with an updated version after the meeting.

**Presentation #18:**

Title	Chirp characteristics and chromatic dispersion tolerance of 200G EML transmitters
Presenters	John Johnson
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1011/johnson_3df_01a_221011.pdf">https://www.ieee802.org/3/df/public/22_10/22_1011/johnson_3df_01a_221011.pdf</a>

Questions of clarification were addressed.

Break at 11:20 a.m. Resumed at 11:24 a.m.

**Presentation #19:**

Title	800G 40km Coherent Baseline Proposal
Presenters	Tom Williams
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1011/williams_3df_01a_221011.pdf">https://www.ieee802.org/3/df/public/22_10/22_1011/williams_3df_01a_221011.pdf</a>

Questions of clarification were addressed.

Chair noted that Eric Maniloff had requested

Prior to the start of the presentation, the author noted that the presentation was updated with additional supporters. He would provide the Chair with an updated version '01a' after the meeting.

**Presentation #20:**

Title	Towards consensus on a coherent based 800G 10 / 40km specification
Presenters	Tom Williams and Eric Maniloff
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1011/maniloff_3df_01a_221011.pdf">https://www.ieee802.org/3/df/public/22_10/22_1011/maniloff_3df_01a_221011.pdf</a>

Questions of clarification were addressed.

Chair noted that the next presentation on the agenda would extend past the announced meeting end time. Chair asked the presenter and participants if there were objections to moving Kechaeo Huang's presentation to 12 October. No one responded. Chair announced that Kechaeo Huang's presentation would be moved to the first presentation on Wednesday, 12 October.

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

Meeting recessed for the day at 12:20 pm.

## 12 October 2022

Session reconvened at 9:30 am on 12 October.

Chair made opening comments and reviewed the plans for the day. Chair noted that the agenda was updated to reflect the updated meeting order for 4 October. (see: [https://www.ieee802.org/3/df/public/22\\_10/agenda\\_3df\\_b\\_2210.pdf](https://www.ieee802.org/3/df/public/22_10/agenda_3df_b_2210.pdf)) Chair noted an error in the agenda version 'b' where the Huang presentation should be first in the order followed by the Liu presentation. (see slide #5) Chair noted that the Chang presentation was withdrawn on 11 October.

Chair noted that the straw polls and motion agenda items were time permitting.

Chair received an updated presentation version '01a' from Xiang Liu that fixed a plotting error on slide 12 and made editorial changes. It was posted to the website. Chair also received an updated presentation version '01a' from Roberto Rodes that included editorial changes. It was posted to the website. (see: [https://www.ieee802.org/3/df/public/22\\_10/index.html](https://www.ieee802.org/3/df/public/22_10/index.html))

Vice Chair reminded remote participants to declare their affiliation in the online tool.

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

### Presentation #21:

Title	Consideration on the Concatenated FEC for 800G FR4 and LR4
Presenters	Kechao Huang
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1011/huang_3df_01_221011.pdf">https://www.ieee802.org/3/df/public/22_10/22_1011/huang_3df_01_221011.pdf</a>

Questions of clarification were addressed.

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

Vice Chair reminded remote participants to declare their affiliation in the online tool.

### Presentation #22:

Title	Assessment of the combined transmission penalty from FWM and dispersion in 800G-LR4 based on 224Gb/s PAM4
Presenters	Xiang Liu
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1012/liu_3df_01a_221012.pdf">https://www.ieee802.org/3/df/public/22_10/22_1012/liu_3df_01a_221012.pdf</a>

Questions of clarification were addressed.

### Presentation #23:

Title	Experimental Verification of Polarization Multiplexing for Suppressing FWM
Presenters	David Lewis
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1012/lewis_3df_01_221012.pdf">https://www.ieee802.org/3/df/public/22_10/22_1012/lewis_3df_01_221012.pdf</a>

Questions of clarification were addressed.

### Presentation #24:

Title	800G LR4 DGD penalty and fiber specifications
Presenters	Maxim Kuschnerov
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1012/kuschnerov_3df_01b_221012.pdf">https://www.ieee802.org/3/df/public/22_10/22_1012/kuschnerov_3df_01b_221012.pdf</a>

Chair asked the author to update the presentation version to '01b' to remove a non-public reference on slide 7. Chair noted that there would be process issues if the target reach was reduced from 10 km as was suggested in the presentation.

Break at 11:25 a.m. Resumed at 11:30 a.m.

### Presentation #25:

Title	Update on component and channel characterization for 800G LR4
Presenters	Maxim Kuschnerov
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1012/kuschnerov_3df_02a_221012.pdf">https://www.ieee802.org/3/df/public/22_10/22_1012/kuschnerov_3df_02a_221012.pdf</a>

There was a request to add the assumption information to slide 6. Chair asked if there was an objection. No one responded. Author would provide an updated version '02a' for posting to the website. Questions of clarification were addressed.

Chair reminded participants of the updated version '01a' of the Rodes presentation that was posted to the Task Force website.

**Presentation #26:**

Title	Refined 800G-LR4 IMDD optical specifications
Presenters	Roberto Rodes
URL	<a href="https://www.ieee802.org/3/df/public/22_10/22_1012/rodes_3df_01b_221012.pdf">https://www.ieee802.org/3/df/public/22_10/22_1012/rodes_3df_01b_221012.pdf</a>

Chair asked the author to update the presentation to version '01b' to change the reference from "800G-LR4 IEEE draft" to "800G-LR4 IEEE proposal" since a draft had not been created. Author noted errors on slide 11 with the value for the allocation for penalties and power budget in the chart on the right side, also to be corrected in '01b' version. Questions of clarification were addressed.

Chair reviewed future meetings. Chair reminded participants of the details for the Task Force meeting at the November plenary and reviewed the meeting announcement. He noted that the meeting supported remote attendees and that a registration fee was required. He also noted that the meeting would occur in the Thailand local time zone. (see: <https://www.ieee802.org/3/B400G/email/msg00475.html> )

Chair reviewed the next steps for the Task Force and the key dates. The new P802.3dj Task Force would need to reaffirm decisions made in the P802.3df Task Force (see: [https://www.ieee802.org/3/df/public/22\\_10/22\\_0927/dambrosia\\_3df\\_01\\_220927.pdf](https://www.ieee802.org/3/df/public/22_10/22_0927/dambrosia_3df_01_220927.pdf))

There was a request for an update on the Frank Chang contribution. Chair noted that he was awaiting an update from Mr. Law on the status from the IEEE risk management reviewers.

Chair noted that the Thailand online meeting invites would be sent after confirmation from Steve Carlson, the IEEE 802.3 Working Group Executive Secretary.

Chair noted that the agenda of the meeting had been completed, and the session adjourned for the day at 12:30 p.m.

## Attendees

Name	Employer	Affiliation	27-Sep	28-Sep	4-Oct	5-Oct	11-Oct	12-Oct
Akbaba, Enis	Analog Devices Inc.	Analog Devices Inc.	X	X			X	X
Akinwale, Oluwafemi		Intel Corporation		X				X
Ben-Artsi, Liav	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X			
Bernier, Eric		Huawei Technologies Co., Ltd	X	X	X	X	X	X
Bernstein, Gary	Leviton Manufacturing Co.	The Siemon Company					X	
Bliss, William	Broadcom Corporation	Broadcom Corporation		X	X	X	X	X
Bois, Karl	NVIDIA Corporation	NVIDIA Corporation	X		X			X
Brooks, Paul	Viavi solutions GmbH	Viavi Solutions	X	X		X		
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada			X	X	X	
Bruckman, Leon	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X			X	X
Cai, Yuefeng		Huawei Technologies Co., Ltd	X	X	X	X	X	X
Calvin, John	Keysight Technologies	Keysight Technologies	X	X	X	X	X	X
Casher, Patrick		Foxconn Interconnect Technologies (FIT)	X	X	X	X	X	X
Cassan, Dave	Alphawave	Alphawave		X	X	X	X	X
Chang, Yongmao	Inphi Corporation	Source Photonics	X	X	X	X	X	X
Chappell, Neveia		Keysight Technologies						X
Chen, Chan	Applied Optoelectronics, Inc.	Applied Optoelectronics, Inc.	X	X		X		X
Chen, Chin-Hui		Meta Platforms	X	X	X	X		
cheng, weiqiang	China Mobile Limited	China Mobile Limited	X			X	X	X
Choe, Denz		BeCe Pte Ltd	X	X				
Choudhury, Golam	OFS	OFS	X		X	X	X	
Cole, Christopher R	Finisar Corporation	Finisar Corporation						X
Cox, Ian		Broadcom Corporation						X
D'Ambrosia, John	Futurewei Technologies, U.S. Subsidiary of Huawei	Futurewei Technologies, U.S. Subsidiary of Huawei	X	X	X	X	X	X
Dawe, Piers J G	NVIDIA	Nvidia	X	X	X	X	X	X
de Koos, Andras	Microchip Technology Inc	Microchip Technology, Inc.	X	X	X	X	X	X
Del Vecchio, Peter		Broadcom Corporation	X	X	X	X		X
Didde, Stephen	Keysight Technologies	Keysight Technologies		X	X	X		X
Diminico, Christopher	M C Communications, LLC	Panduit Corp.				X		X

Dube, Kathryn	UNH-IOL	UNH-IOL	X		X	X		X
Dudek, Michael	Marvell	Marvell	X	X		X	X	X
Dumais, Patrick		Huawei Technologies Co., Ltd		X		X	X	X
Estes, David	Spirent Communications	Spirent Communications			X	X		
Ewen, John	Marvell	Marvell	X	X	X	X		X
FAn, DAWEI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd				X		
FILIPPOU, DIMITRIS		Dimitris Filippou; I2QS					X	X
Gao, Xiangrong	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X		
Geng, Limin	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X				X	X
Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC; Marvell Semiconductor, Inc.	X	X	X	X	X	X
Gore, Brandon	Samtec, Inc.	Samtec, Inc.	X	X	X		X	
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.			X	X		X
Gu, Tao		Centec	X	X	X	X		
Gui, Tao		Huawei Technologies Co., Ltd					X	
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X	X	X
Han, Ruibo	China Mobile Communications Corporation (CMCC)	China Mobile Communications Corporation (CMCC)	X	X			X	
Harstead, Ed	Nokia	Nokia					X	
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X		X	X	X	X
Healey, Adam	Broadcom Inc.	Broadcom Inc.	X	X	X	X	X	X
Heck, Howard	Intel	Intel	X				X	X
Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor	X	X	X	X	X	X
Huang, Howard		Synopsys, Inc.				X		X
Huang, Kechao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X	X	X
HUANG, QINHUI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd					X	X
Huber, Thomas	Nokia	Nokia			X	X	X	X
Isono, Hideki	Fujitsu Optical Components Limited	Fujitsu Optical Components Limited	X		X	X	X	X

Issenhuth, Tom	Issenhuth Consulting, LLC	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Jackson, Kenneth	Sumitomo Electric Device Innovations, USA	Sumitomo Electric Industries, LTD	X		X	X	X	
Jiang, Chendi	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X		X	X
Johnson, John	Broadcom Corporation	Broadcom Corporation	X	X	X	X	X	X
Kabra, Lokesh	Synopsys, Inc.	Synopsys, Inc.				X		
Kao, Chienping	Intel	Cornelis Networks	X	X	X	X	X	X
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X	X	X
Kikuchi, Nobuhiko		Hitachi, Ltd.					X	X
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.	X	X	X	X	X	X
Kim, Taeyong		LESSENGERS Inc.	X	X	X	X	X	X
Kimbara, Tatsuki		Hakusan; Optical Interconnect Products	X					
Kimber, Eric	Semtech Ltd	Semtech Ltd		X	X	X	X	X
Klempa, Michael	Amphenol Corporation	Alphawave IP			X	X	X	X
Klingensmith, William	U.S. Federal Government	DoD	X	X		X		
Kochuparambil, Elizabeth	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X			
Kocsis, Sam	Amphenol Corporation	Amphenol Corporation	X	X	X		X	
Koehler, Daniel	MorethanIP	Synopsys, Inc.			X	X		
Kondo, Taiji	MegaChips Corporation	Dexerials Corporation	X	X	X	X	X	X
Kuschnarov, Maxim	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Duesseldorf GmbH	X		X		X	X
Lam, Cedric		Google	X					
Lambert, Angela	Corning Incorporated	Corning Incorporated					X	X
Law, David	Hewlett Packard Enterprise	Hewlett Packard Enterprise					X	
Lawson, Matthew	Cisco Systems, Inc.	Cisco Systems, Inc.	X				X	X
Le Cheminant, Greg	Keysight Technologies	Keysight Technologies					X	X
Lederman, Guy		NVIDIA		X				
Levin, Itamar		Intel Corporation		X			X	
Lewis, David	Lumentum Inc.	Lumentum Inc.		X	X	X	X	X
Li, Mike-Peng	Intel	Intel					X	X
Li, Pei-Rong	MediaTek Inc.	MediaTek Inc.	X	X	X	X	X	X
Lieder, Eyal		Marvell Semiconductor, Inc.	X	X	X	X	X	X
Lim, Jane	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X		X
Little, Terrance	Foxconn Electronics Inc.	Foxconn Electronics Inc.	X	X	X	X	X	X

Liu, Cathy	Broadcom Corporation	Broadcom Corporation	X	X	X	X	X	X
Liu, Karen	Nubis Communications	Nubis Communications	X	X	X	X	X	X
LIU, XIANG	Huawei R&D USA	Huawei Technologies Co., Ltd			X	X	X	X
Lu, Yuchun	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X	X	X
Lusted, Kent	Intel	Intel	X	X	X	X	X	X
Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.	X	X	X	X	X	
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components	X	X	X	X	X	X
Maniloff, Eric	Ciena Corporation	Ciena Corporation	X	X	X	X	X	X
Marris, Arthur	Cadence Design Systems, Inc.	Cadence Design Systems, Inc.			X	X	X	X
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.	X	X	X	X	X	X
mi, guangcan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	
Moorwood, Charles	Keysight Technologies	Keysight Technologies	X	X	X	X		X
Mu, Jianwei		Hisense			X	X	X	X
Mueller, Thomas	Rosenberger	Rosenberger	X					
Muller, Shimon	Enfabrica Corp.	Enfabrica Corp.	X	X	X	X	X	X
Muth, Karlheinz	Broadcom Corporation	Broadcom Corporation	X	X		X		
Nakamoto, Edward	Spirent Communications	Spirent Communications			X			
Nandwana, Romesh Kumar		Cisco Systems, Inc.				X		
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X	X	X
Nicholl, Gary	Cisco Systems, Inc.	Cisco Systems, Inc.	X			X	X	X
Nicholl, Shawn	Xilinx	Advanced Micro Devices (AMD)	X		X	X		
Ninomiya, Takuya		Senko Advanced Components	X	X	X	X	X	X
Noujeim, Leesa	Google	Google			X			
Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X	X	X
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.			X	X		X
Omori, Kumi	NEC Corporation	NEC Corporation	X	X	X	X	X	X
Opsasnick, Eugene	Broadcom Inc.	Broadcom Inc.	X	X	X	X	X	X
Palkert, Thomas	Macom,&nbsp;Samtec	Samtec-Macom	X	X		X	X	X
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.	X	X	X	X	X	
Parthasarathy, Vasu	Broadcom Corporation	Broadcom Corporation				X		

peng, semmy		Huawei Technologies Co., Ltd		X			X	X
Pepper, Gerald	Keysight Technologies	Keysight Technologies			X	X		
Peters, Kevin		Inneos			X		X	
Piehler, David	Dell Technologies	Dell	X		X	X	X	X
Pimpinella, Rick	Panduit Corp.	Panduit Corp.					X	X
Quan, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X			X	X
Rabinovich, Rick	Keysight Technologies	Keysight Technologies	X	X	X		X	X
Radhamohan, Rajeshmohan	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X		X
Rahn, Jeffrey	Facebook	Facebook	X	X			X	X
Ramesh, Sridhar	MaxLinear	MAXLINEAR INC				X	X	
Ran, Adee	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X		X	X	X
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Rodes, Roberto	II-VI	II-VI	X		X	X	X	X
Sakai, Toshiaki	Socionext Inc.	socionext	X	X	X	X	X	X
Sambasivan, Sam	AT&T	AT&T					X	X
Savi, Olindo	Hubbell Incorporated	Hubbell Incorporated	X	X	X		X	X
Shanbhag, Megha	Tyco	TE Connectivity	X	X	X			X
She, Qingya	Fujitsu Network Communications	Fujitsu Network Communications	X	X				
Shrikhande, Kapil	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X		X	X		
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.	X	X	X	X	X	X
Sikkink, Mark	Hewlett Packard Enterprise	Hewlett Packard Enterprise	X	X	X	X	X	X
Simms, William	NVIDIA Corporation	NVIDIA Corporation	X	X		X		
Sinn, Peter		Alphawave IP	X	X	X	X	X	X
Sivakolundu, Ramesh	Cisco Systems, Inc.	Cisco Systems, Inc.					X	
Slavick, Jeff	Broadcom Inc	Broadcom Inc	X		X	X		
Sluyski, Mike		Cisco Systems, Inc.	X	X		X	X	X
Sommers, Scott	Molex LLC	Molex Incorporated	X	X	X	X	X	X
Son, Yung Sung	Optomind Inc	Optomind Inc	X	X	X	X	X	X
Sorbara, Massimo	GLOBALFOUNDRIES	GLOBALFOUNDRIES	X	X	X	X	X	X
Sprague, Edward	Infinera Corporation	Infinera Corporation	X		X	X	X	X
Stassar, Peter	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X

SU, CHANGZHENG		Huawei Technologies Co., Ltd		X				
Summers, Robert		Broadcom Corporation	X	X	X	X	X	X
Sun, Junqing	Credo Semiconductor	Credo Semiconductor				X	X	X
TAKAHARA, TOMOO	FUJITSU LABORATORIES LIMITED	FUJITSU LIMITED				X		X
Terada, Masaru	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC	X		X	X	X	X
Theodoras, James	HG Genuine	HG Genuine		X	X		X	X
Toyserkani, Pirooz	Cisco Systems, Inc.	Cisco Systems, Inc.	X		X	X	X	X
Tracy, Nathan	TE Connectivity	TE Connectivity	X	X	X	X	X	X
Tran, Viet	Keysight Technologies	Keysight Technologies	X	X	X	X	X	X
Ulrichs, Ed	Intel	Intel			X	X	X	X
Vitali, Marco	Sicoya	Sicoya						X
Wang, Haojie	China Mobile Communications Corporation (CMCC)	China Mobile Communications Corporation (CMCC)	X	X		X	X	X
Wang, Ruoxu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Wang, Xinyuan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Weaver, James	Arista Networks	Arista Networks	X	X	X	X		
Welch, Brian	Cisco Systems, Inc.	Luxtera	X	X	X	X	X	X
Whiteman, Cameron	Infinera Corporation	Infinera Corporation			X	X		X
Williams, Tom	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X		X	X
Wingrove, Michael	Ciena Corporation	Ciena Corporation		X	X	X	X	X
Wong, Henry		Huawei Technologies Co., Ltd	X	X	X	X	X	X
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.	X	X	X	X	X	
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.					X	
Xu, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd					X	X
yan, zengchao		Huawei Technologies Co., Ltd				X	X	X
Yin, Shuang		Google	X	X	X	X	X	X
Zhang, Bo	Marvell Technology, Inc	Marvell Technology, Inc	X				X	
Zhang, Tingting		Huawei Technologies Co., Ltd					X	X
Zhiwei, Yang	ZTE Corporation	ZTE Corporation					X	

Zhong, Qiwen	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd						X
Zhou, Xiang		Google	X				X	X
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X	X	X
Zivny, Pavel	Tektronix, Inc.	Tektronix, Inc.			X	X		X