

Joint Session of the IEEE P802.3df 400 Gb/s and 800 Gb/s Ethernet Task Force and IEEE P802.3dj 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

13 March 2023

March 2023 session

IEEE P802.3df Task Force January 2023 Meeting Task Force Page - same as P802.3dj (see below)

IEEE P802.3dj Task Force January 2023 Meeting Task Force Page -

https://www.ieee802.org/3/dj/public/23_03/index.html

Session called to order at 1:05 pm Eastern time (all times eastern) by John D'Ambrosia, Chair of P802.3dj and P802.3df Task Forces.

Mark Nowell, Vice-Chair of P802.3dj and P802.3df Task Forces, reminded participants to declare their name and affiliation in the online meeting tool. Failure to declare would result in expulsion from the meeting.

Chair noted that every attendee at any IEEE 802 plenary meeting (Face-to-Face or Remote) must register and pay a fee to participate.

Chair noted that the meeting would be a joint Task Force meeting of the P802.3df Task Force and the P802.3dj Task Force, as approved in the November IEEE 802.3 Working Group meeting. (see slide #2).

Introductions were made for participants in the room.

Presentation #1

Title	Agenda and General Information
Presenters	John D'Ambrosia
URL	https://www.ieee802.org/3/dj/public/23_03/agenda_3dfdj_a_2303.pdf

Questions of clarification were addressed.

Chair welcomed everyone to the meeting.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Chair reviewed the agenda (Slide #3) and noted presentation order (Slides #5-7). Chair noted that individuals should check the webpage for the latest version of each presentation. Chair noted that all of the presentation times were subject to change.

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

Chair noted that there were several Task Force and ad hoc meeting minutes to approve (see slide #5)

- Joint P802.3df / .3dj TF Mtg – Jan 2023 Session
https://www.ieee802.org/3/dj/public/23_01/minutes_3df_2301_unapproved.pdf
- P802.3df Electrical Ad hoc 21 Sept 2022 –
https://www.ieee802.org/3/df/public/adhoc/electrical/22_0921/minutes_3df_adh_220921_unapproved.pdf
- P802.3df Logic Ad hoc 21 Feb, 2023 - https://www.ieee802.org/3/df/public/adhoc/logic/23_0221/minutes.pdf
- P802.3dj Optics Ad hoc 22 Feb 2023 -
https://www.ieee802.org/3/dj/public/adhoc/optics/0223_OPTX/minutes_3dj_optx_230222_unapproved.pdf
- P802.3dj Electrical Ad hoc 23 Feb 2023 -
https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0223/minutes_3df_adh_230223_unapproved.pdf

Chair asked if there were any corrections or modifications to the posted minutes. 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 noted an error in the agenda presentation on slide 8 and would update to version 'b'.

Chair reviewed meeting decorum. (See Slide #9) Chair asked if there were any members of the press present. No one responded.

Chair reviewed attendance. (See Slide #10) Chair noted that Task Force meeting attendance would be through the IEEE Meeting Attendance (IMAT). Participants would not get Working Group credit for attending the Monday afternoon session of the meeting.

Chair reviewed the Task Force Project Information / Organization for the P802.3df and the P802.3dj Task Forces. (See Slides #11-12).

Chair reviewed ground rules. (See Slide #13)

Chair reviewed the current state of the Task Force. (See Slide #14.)

Chair reviewed voting in the task force. (See Slide #16) Chair noted that the straw polls would use the online Zoom tool. Motions would be taken with the Direct Vote Live tool if there was not unanimous consent. Chair noted that he reserved the right to take informative straw polls by 802.3 WG voting membership.

Slide #17 - Chair noted that the information regarding the IEEE SA Policies had been sent out via the Task Force reflector , 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 from in-person nor remote attendees.

Chair presented the third slide (See Slide #40) 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 #45) 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 #49) 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 reviewed the list of liaisons for consideration. (see slide #18)

For the OIF XSR+, Kent Lusted noted that no response to the liaison was needed.

For the ITU-T liaison, Chair asked participants to contact the Chair with suggestions on a response.

Chair noted that Ali Ghaisi prepared a liaison to the OIF regarding CMIS-LT for consideration by the Task Force. (see: https://www.ieee802.org/3/dj/public/23_03/ghiasi_3dj_01_2303.pdf) Chair asked participants to review the contribution and provide any feedback to Ali, Kent and the Chair.

Chair reviewed the status of baseline proposal development. (see slide #19 and #20 in the agenda). Chair noted that the 800 GbE solutions for SMF 10km and 40km may be resolved during this meeting cycle and would be updated in the future.

Chair reviewed the summaries from the P802.3df and P802.dj Task Force ad hoc meetings. (see slide #23)

Prior to the start of presentation #2, the author had an updated presentation with editorial changes in version ‘01a’. Chair would post it to the website.

Presentation #2

Title	Towards a 200G/lane Backplane Objective – An Update
Presenters	Kent Lusted
URL	https://www.ieee802.org/3/dj/public/23_03/lusted_3dj_01a_2303.pdf

Questions of clarification were addressed.

Chair noted that he would prioritize presentations on existing objectives in the future. He encouraged the use of the ad hoc meetings for offline consensus building.

Prior to the start of presentation #3, the author had an updated presentation with editorial changes in version ‘02a’. Chair would post it to the website.

Presentation #3

Title	200GAUI-1/400GAUI-2/800GAUI-4/1.6TAUI-8 AUI C2M Interfaces: Link Training or Not?
Presenters	Kent Lusted
URL	https://www.ieee802.org/3/dj/public/23_03/lusted_3dj_02a_2303.pdf

Questions of clarification were addressed.

Break at 2:52 p.m.. Resumed at 3:15 p.m.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Presentation #4

Title	Further Details and Progress on CMIS-LT
Presenters	Ali Ghiasi
URL	https://www.ieee802.org/3/dj/public/23_03/ghiasi_3dj_03a_2303.pdf

Author noted a typo error on slide 8 and would provide an updated version '03a'. Questions of clarification were addressed.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Prior to the start of presentation #5, the author had an updated presentation with editorial changes and additional supporters in version '02a'. Chair would post it to the website.

Presentation #5

Title	CRU Bandwidth Recommendation for 200G Interfaces
Presenters	Ali Ghiasi
URL	https://www.ieee802.org/3/dj/public/23_03/ghiasi_3dj_02a_2303.pdf

Questions of clarification were addressed.

Presentation #6

Title	Achievable IL under Different 802.3dj C2M Candidates
Presenters	Tobey P.-R. Li
URL	https://www.ieee802.org/3/dj/public/23_03/li_3dj_01a_2303.pdf

There was a request to update the list of channels in the presentation on slide #16. Author would provide in version '01a'.

Questions of clarification were addressed.

Prior to the start of presentation #7, the author had an updated presentation with editorial changes in version '02a'. Chair would post it to the website.

Presentation #7

Title	Further on the COM Analysis for 200G/L AUI C2M-TP1a Simulation
Presenters	Tobey P.-R. Li
URL	https://www.ieee802.org/3/dj/public/23_03/li_3dj_02a_2303.pdf

Questions of clarification were addressed.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Chair asked participants in the room to join the online meeting without audio in order to participate in the straw poll.

Straw Poll #1:

I would support a one-lane 200 GbE, a two-lane 400 GbE, a four-lane 800 GbE, and an eight-lane 1.6 TbE backplane objective of the form:

“Define a physical layer specification that supports [n*200] Gb/s operation over [n] lanes over electrical backplanes supporting a die-to-die insertion loss $\leq X$ dB at 53.125 GHz”

Results (all) Y: 56 , N: 11 , A: 14

Chair announced that the Tuesday start time was set to 8:30 a.m.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool for Task Force attendance credit.

Meeting recessed for the day at 5:50 p.m.

14 March 2023

Meeting reconvened at 8:31 a.m. eastern time zone.

Chair made opening comments and reviewed the plans for the day. (see: https://www.ieee802.org/3/dj/public/23_03/agenda_3dfdj_b_2303.pdf)

Chair noted that the presentation from Sridhar Ramesh would not be given due to presenter availability issues. The presentation would remain posted on the Task Force website.

Vice Chair reminded participants to declare their affiliation in the online meeting tool. Failure to declare affiliation would result in expulsion from the meeting.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool for Task Force attendance credit.

Prior to the start of presentation #8, the author had an updated presentation with editorial changes in version '01a'. Chair would post it to the website.

Presentation #8

Title	Baseline Proposal for 1.6TbE PCS Lane Formation and AM Insertion
Presenters	Eugene Opsasnick
URL	https://www.ieee802.org/3/dj/public/23_03/opsasnick_3dj_01a_2303.pdf

Author noted an error with an affiliation and would provide an updated version '01a'.

Questions of clarification were addressed.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Prior to the start of presentation #9, the author had an updated presentation with editorial changes in version '01a'. Chair would post it to the website.

Presentation #9

Title	Baseline proposal for PMAs with 200G per lane signaling
Presenters	Adee Ran
URL	https://www.ieee802.org/3/dj/public/23_03/ran_3dj_01a_2303.pdf

Questions of clarification were addressed.

Chair noted that he had the option to do straw polls by IEEE 802.3 voters only for information purposes.

Straw Poll #2:

I would support adopting opsasnick_3dj_01a_2303, slides 3, 5-9, 12-13, as a supplement to the previously adopted 1.6TbE PCS baseline from gustlin_3dj_01b_230206.pdf. These two presentations together complete the baseline for the 1.6TbE PCS.

Results (all) Y: 77 , N: 2 , A: 19

Straw Poll #3:

I would support the proposal in ran_3dj_01a_2303 as a baseline for the PMAs with 200G per lane signaling

Results (all) Y: 76 , N: 4, A: 19

Chair noted that a version of the Straw Poll and Motions file from Monday was posted to the Task Force website. (see: https://www.ieee802.org/3/dj/public/23_03/motions_3dfdj_2203_220313.pdf)

Chair thanked the authors of the 1.6T PCS and symbol muxing presentations for building consensus towards a baseline.

Presentation #10

Title	AUI Types vs. FEC Partitioning
Presenters	Mark Gustlin
URL	https://www.ieee802.org/3/dj/public/23_03/gustlin_3dj_01_2303.pdf

Questions of clarification were addressed.

Break at 10:25 a.m. Resumed at 10:45 a.m.

Prior to the start of presentation #10, the author had an updated presentation with an additional slide in version '01a'.
Chair would post it to the website.

Presentation #11

Title	PHY/FEC Architecture considerations V2
Presenters	Matt Brown
URL	https://www.ieee802.org/3/dj/public/23_03/brown_3dj_01a_2303.pdf

Questions of clarification were addressed.

Presentation #12

Title	End-to-end FEC for 200G per lane applications in Data Center
Presenters	Leon Bruckman
URL	https://www.ieee802.org/3/dj/public/23_03/bruckman_3dj_01_2303.pdf

Questions of clarification were addressed.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Break at 11:50 a.m. Resumed at 1:15 p.m.

Chair announced an update to the agenda regarding motions. He noted that the agenda presented to the Task Force on Monday had motions planned for Thursday. However, due to progress made by the Task Force so far, motions may be heard starting Wednesday afternoon.

Prior to the start of presentation #13, the author had an updated presentation with an additional slide in version '01a'. Chair would post it to the website.

Presentation #13

Title	200G/lane PAM4: Error Profile, Propagation and Correction considerations: Part2 -Effects of precoding and Inner FEC code
Presenters	Upen Reddy Kareti
URL	https://www.ieee802.org/3/dj/public/23_03/kareti_3dj_01a_2303.pdf

Chair noted an issue with a confidential statement in version '01' and asked the author to send an updated version '01a' with the statement removed.

Questions of clarification were addressed.

Prior to the start of presentation #14, the author had an updated presentation with an additional slide in version '02a'. Chair would post it to the website.

Presentation #14

Title	200G/lane PAM4: Error Profile, Propagation and Correction considerations: Part3 -Multi part links cases - FEC strategies and their solution space
Presenters	Upen Reddy Kareti
URL	https://www.ieee802.org/3/dj/public/23_03/kareti_3dj_02_2303.pdf

Questions of clarification were addressed.

Presentation #15

Title	The Case for Concatenated Codes
Presenters	Vasu Parthasarathy
URL	https://www.ieee802.org/3/dj/public/23_03/parthasarathy_3dj_01_2303.pdf

Questions of clarification were addressed.

Break at 2:50 p.m. Resumed at 3:15 p.m.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Presentation #16

Title	Architectural Considerations for Type 2 PHY/FEC Scheme (Concatenated FEC) for 200G per Lane IMDD
Presenters	Xiang He
URL	https://www.ieee802.org/3/dj/public/23_03/he_3dj_01_2303.pdf

Questions of clarification were addressed.

Presentation #17

Title	Consideration on Concatenated FEC Proposal for 200 Gbps per Lane IMDD Optical PMD
Presenters	Masoud Barakatain
URL	https://www.ieee802.org/3/dj/public/23_03/barakatain_3dj_01a_2303.pdf

During the presentation it was noted that a correction to the mean time number noted on the probability calculation on Page 7 needed to be updated. The author will send the chair an update.

Questions of clarification were addressed.

Presentation #18

Title	Impact of burst errors on concatenated FEC scheme
Presenters	Jamal Riani
URL	https://www.ieee802.org/3/dj/public/23_03/riani_3dj_01a_2303.pdf

Author noted an error on slide 5 with Bayes rule and would provide an updated '01a' version.

Questions of clarification were addressed.

Prior to the start of presentation #19, the author had an updated presentation with an additional slide in version '01a'.

Chair would post it to the website.

Presentation #19

Title	FEC options for 200G/lane DRn, DRn-2 and FR1
Presenters	Piers Dawe
URL	https://www.ieee802.org/3/dj/public/23_03/dawe_3dj_01a_2303.pdf

Xiang He offered his support to the contribution. Guangcan Mi offered her support to the contribution. Author would provide an updated '01a'.

Questions of clarification were addressed.

Straw Poll #4

I would support the use of "link training" (a mechanism through which the receiver can request to adjust the partner's transmitter to optimize performance) on the 200GAUI-1/400GAUI-2/800GAUI-4/1.6TAUI-8 C2M interfaces

Results (all) Y: 64 , N: 1 , NMI: 18 , A: 12

Chair confirmed a start time of 8:30 a.m. on Wednesday.

Chair noted that the agenda presented to the Task Force on Monday had motions planned for Thursday. However, due to progress made by the Task Force so far, motions may be heard starting Wednesday afternoon.

Chair noted that he had the option to do straw polls by IEEE 802.3 voters only for information purposes.

Chair noted that he received an updated presentation from Lenin Patra with new technical material. Chair asked if there was an objection to hearing the updated presentation. No one responded.

Chair reminded participants of the social event on Wednesday night as part of the IEEE 40th year anniversary. Chair noted that he intended to end the meeting on Wednesday at 5:30 p.m.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool for Task Force attendance credit.

Meeting recessed for the day at 5:51 p.m.

15 March 2023

Meeting reconvened at 8:30 a.m. eastern time zone.

Chair made opening comments and reviewed the plans for the day. (see: https://www.ieee802.org/3/dj/public/23_03/agenda_3dfdj_b_2303.pdf)

Vice-Chair reminded participants to declare their affiliation in the online meeting tool. Failure to declare affiliation would result in expulsion from the meeting.

Chair noted that the presentation from Xinyuan Wang was withdrawn.

Chair noted that the agenda presented to the Task Force on Monday had motions planned for Thursday. However, due to progress made by the Task Force so far, motions may be heard starting Wednesday afternoon.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool for Task Force attendance credit.

Chair reminded participants of the social event on Wednesday night as part of the IEEE 40th year anniversary. Chair noted that he intended to end the meeting on Wednesday at 5:30 p.m.

Chair reminded participants to review the proposed liaison responses on the Task Force website. He was also working on a liaison to OIF to share the draft.

Prior to the start of presentation #20, the author had an updated presentation with an additional slide in version '01b'. Chair would post it to the website.

Presentation #20

Title	FEC baseline proposal for 200Gb/s per Lane IM-DD Optical PMD
Presenters	Lenin Patra
URL	https://www.ieee802.org/3/dj/public/23_03/patra_3dj_01b_2303.pdf

Questions of clarification were addressed.

Chair noted that he had the option to do straw polls by IEEE 802.3 voters only for information purposes.

Straw Poll #5:

I am supportive of the direction of patra_3dj_01b_2303 pages 3, 6-14 and 20-23 as the baseline FEC proposal for 200 Gb/s per lane optical PMDs (per page 3) with the details of the convolutional interleaver to be determined later.

(Choose one)

Results (all) Y: 48 , N: 31 , A: 34

Results (802.3 voters only) Y: 29 , N: 29 , A: 29

During the discussion of Straw Poll #5, there was a request for an interpretation from the Chair. Chair noted that he interpreted that the straw poll would only have RS(544) + Hamming(128) for the 800GBASE-FR4.

Break at 9:54 a.m. Resumed 10:25 a.m.

Straw Poll #6:

The primary issue that I think should be addressed with the baseline proposal in straw poll #5 is:

- A. AUI BER details
- B. 1.6T support
- C. convolutional interleaver
- D. common FEC across the 200G/lane PMDs
- E. latency
- F. FEC lane rate
- G. other

(choose one)

Results (all): A: 26 , B: 9 , C: 5 , D: 27 , E: 10 , F: 6 , G: 4

During Straw Poll #6, Chair asked for participants that have no concern with the baseline proposal in straw poll #5 to not vote.

Chair provided observations on the straw polls. He encouraged participants to reach out and build consensus towards a common solution.

Chair noted that the website links for the series of contributions from Brian Welch had been fixed.

Prior to the start of presentation #21, the author had an updated presentation with additional supporters in version '01a'. Chair would post it to the website.

Presentation #21

Title	Proposal for an additional optical objective: 400GBASE-DR2-2
Presenters	Brian Welch
URL	https://www.ieee802.org/3/dj/public/23_03/welch_3dj_01a_2303.pdf

There was feedback to add details on the x2 application on slide 4 of the presentation. Author would make the change in version '01a'.

Questions of clarification were addressed.

Presentation #22

Title	Baseline proposals for 200G/L PMD specifications for single wavelength 500m and 2km standards
Presenters	Brian Welch
URL	https://www.ieee802.org/3/dj/public/23_03/welch_3dj_02a_2303.pdf

Questions of clarification were addressed.

Presentation #23

Title	Baseline proposal for 200G/L PMD specification for 4 wavelengths over a single SMF in each direction with lengths up to at least 2km
Presenters	Brian Welch
URL	https://www.ieee802.org/3/dj/public/23_03/welch_3dj_03a_2303.pdf

Author noted an error with the pre-FEC BER values in slides 15-17 and would provide an updated version '03a'.

Questions of clarification were addressed.

Chair noted that the next presentation would extend into lunch break. He asked if there was an objection to going on break early. No one responded.

Break at 11:45 a.m. Resumed at 1:15 p.m.

Presentation #24

Title	Rigorous 800G-LR FWM Suppression Analysis using Actual Fiber Cable Segmentation
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Presenters	Xiang Liu
URL	https://www.ieee802.org/3/dj/public/23_03/liu_3dj_01_2303.pdf

Questions of clarification were addressed.

Vice-Chair reminded participants to declare their affiliation in the online meeting tool. Failure to declare affiliation would result in expulsion from the meeting.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Presentation #25

Title	10km Duplex SMF Objectives Proposal
Presenters	Chris Cole
URL	https://www.ieee802.org/3/dj/public/23_03/cole_3dj_01c_2303.pdf

There was an error on slide 5 and the author would send a corrected version '01c'.

Questions of clarification were addressed.

During Presentation #25, Chair reminded participants to follow the decorum rules. Chair reminded participants of compliance with the IEEE Code of Ethics required by all participants.

Presentation #26

Title	Towards an 800G-LR4 IMDD Specification Consensus - March 2023 update
Presenters	Roberto Rodes
URL	https://www.ieee802.org/3/dj/public/23_03/rodes_3dj_01a_2303.pdf

Author to provide an updated presentation with an editorial correction in version '01a'. Questions of clarification were addressed.

Chair noted that he would begin entertaining motions as previously announced.

During motion #1, Chair noted that he had reviewed the proposed baseline with the Chief Editor and the Chief Editor said it was editorially sufficient.

Motion #1:	<p>Move to:</p> <p>Replace the following objective:</p> <ul style="list-style-type: none"> Define a physical layer specification that supports 800 Gb/s operation over a single SMF in each direction with lengths up to at least 10 km <p>with the following two objectives:</p> <ul style="list-style-type: none"> Define a physical layer specification that supports 800 Gb/s operation over 1 wavelength over a single SMF in each direction with lengths up to at least 10 km Define a physical layer specification that supports 800 Gb/s operation over 4 wavelengths over a single SMF in each direction with lengths up to at least 10 km
Technical (>= 75%)	
Moved by	Mark Nowell
Second by	John Johnson
Results 802.3 (y/n/a)	Result: Y: 63, N: 3, A: 12 Motion passed 2:43 p.m.

The roll call vote results from Motion #1 are as follows:

Attendee	Vote
Adam Healey	Yes
Adee Ran	Yes
Ali Ghiasi	Yes
Andras De Koos	Abstain
Ayal Shoval	Abstain
Brian Welch	Yes
Cathy Liu	Abstain
Chan Chen	Yes
Chendi Jiang	Yes
Chul Soo Park	Yes
Dave Cassan	Yes
David Malicoat	Yes
David Ofelt	Yes
Edward Nakamoto	Yes
Edward Sprague	Yes
Eric Bernier	Yes
Eric Kimber	Yes
Eric Maniloff	Yes
Ernest Muhigana	Yes

Attendee	Vote
Eugene Opsasnick	Yes
Eyal Lieder	Yes
Flavio Marques	Yes
Frank Effenberger	Yes
Gerald Pepper	Yes
Guangcan Mi	Yes
Hao Ren	Yes
Hideki Isono	Yes
Howard Heck	Yes
John Abbott	Yes
John Calvin	Yes
John Johnson	Yes
Karl Bois	Abstain
Kechao Huang	Yes
Kenneth Jackson	Yes
Kihong/Joshua Kim	Abstain
Kishore Kota	No
Leon Bruckman	Yes
Liav Ben-Artzi	Abstain

Attendee	Vote
Mark Gustlin	Yes
Mark Nowell	Yes
Mark Sikkink	Yes
Massimo Sorbara	Yes
Matthew Brown	Yes
Matthew Lawson	Yes
Michael Dudek	Yes
Michael Klempa	Yes
Nathan Tracy	Yes
Olindo Savi	Abstain
Pei-Rong Li	Yes
Peter Del Vecchio	Yes
Peter Stassar	Yes
Peter Wu	Abstain
Piers J G Dawe	No
Pirooz Tooyserkani	Yes
Qinhui Huang	Abstain
Ramana Murty	Yes
Raymond Nering	Yes

Attendee	Vote
Rick Rabinovich	Yes
Roberto Rodes	Yes
Ruoxu Wang	Yes
Sam Kocsis	Yes
Shawn Nicholl	Yes
Shimon Muller	Abstain
Shuang Yin	Yes
Terrance Little	Yes
Thomas Huber	Yes
Tom Issenhuth	Yes
Tom Williams	Yes
Tomoo Takahara	Abstain
Upen Kareti	Yes
Viet Tran	Yes
William Klingensmith	Yes
Xiang He	Yes
Yi Sun	Yes
Yongbum Kim	Yes
Youxi Lin	No

Attendee	Vote
Yu Quan	Yes
Yung Sung Son	Abstain

During the discussion of motion #2, Chair noted the nomenclature of “400GBASE-DR2-2” was included in the motion and would be used for that physical layer specification.

Motion #2:	Move to adopt the following objective for 400GBASE-DR2-2: <ul style="list-style-type: none"> Define a physical layer specification that supports 400 Gb/s operation over 2 pairs of SMF with lengths up to at least 2 km
Technical (>= 75%)	
Moved by	Brian Welch
Second by	John Johnson
Results 802.3 (y/n/a)	Motion passed by unanimous consent 2:47 p.m.

Straw Poll #7:

I support a CRU bandwidth and jitter tolerance corner frequency of Fbaud/26562.5 for all 802.3dj interfaces operating at 200 Gb/s/lane

Results (all) Y: 49, N: 3, NMI: 15, A: 32

Break at 2:58 p.m. Resumed at 3:23 p.m.

Chair reminded participants of the 5:30 p.m. end time for the day due to the IEEE 802 social event.

Chair reminded participants to follow the decorum rules.

Prior to the start of presentation #27, the author had an updated presentation with additional supporters in version '01a'. Chair would post it to the website.

Presentation #27

Title	Baseline proposal for 10 & 40km 800Gb/s objectives in 802.3dj
Presenters	Eric Maniloff
URL	https://www.ieee802.org/3/dj/public/23_03/maniloff_3dj_01a_2303.pdf

Questions of clarification were addressed.

During Presentation #27, Chair reminded participants to follow the decorum rules. Chair reminded participants of compliance with the IEEE Code of Ethics required by all participants. David Law, IEEE 802.3 Working Group chair, also reminded participants of the decorum rules.

Prior to the start of presentation #28, the author had an updated presentation with additional supporters in version '01a'. Chair would post it to the website.

Presentation #28

Title	Update to oFEC-based single lambda baseline for 10km and 40km objectives
Presenters	Tom Williams
URL	https://www.ieee802.org/3/dj/public/23_03/williams_3dj_01a_2303.pdf

Questions of clarification were addressed.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool for Task Force attendance credit.

During motion #3, Chair noted that he had reviewed the proposed baseline with the Chief Editor and the Chief Editor said it was editorially sufficient.

Motion #3:	Move to: <ul style="list-style-type: none"> adopt opsasnick_3dj_01a_2303, slides 3, 5-9, 12-13, as a supplement to the previously adopted 1.6TbE PCS baseline from gustlin_3dj_01b_230206.pdf.
Technical (>= 75%)	
Moved by	Eugene Opsasnick
Second by	Xiang He
Results 802.3 (y/n/a)	Passed by unanimous consent. 5:12 p.m.

During motion #4, Chair noted that he had reviewed the proposed baseline with the Chief Editor and the Chief Editor said it was editorially sufficient.

Motion #4:	Move to: <ul style="list-style-type: none"> Adopt ran_3dj_01a_2303, slides 6-24 as a baseline for the PMAs with 200 Gbps per lane signaling
Technical (>= 75%)	
Moved by	Adee Ran
Second by	Shawn Nicholl
Results 802.3 (y/n/a)	Y: 69, N: 1, A: 13 Motion passes 5:22 p.m.

The roll call vote results from Motion #4 are as follows:

Attendee	Vote
Adam Healey	Yes

Attendee	Vote
Adee Ran	Yes
Ali Ghiasi	Yes
Andras De Koos	Yes
Angela Lambert	Abstain
Brandon Gore	Yes
Brian Welch	Yes
Cathy Liu	Yes
Chan Chen	Yes
Charles Moorwood	Yes
Chendi Jiang	Yes
Chul Soo Park	Yes
Dave Cassan	Yes
David Estes	Abstain
David Malicoat	Yes
David Ofelt	Yes
Ed Ulrichs	Yes
Edward Nakamoto	Yes
Edward Sprague	Yes
Eric Bernier	Abstain

Attendee	Vote
Eric Kimber	Yes
Eric Maniloff	Yes
Ernest Muhigana	Yes
Eugene Opsasnick	Yes
Eyal Lieder	Yes
Flavio Marques	Yes
Gary Nicholl	Yes
Guangcan Mi	Yes
Haojie Wang	Yes
Hideki Isono	Yes
Howard Heck	Yes
James Weaver	Yes
Jeffery Maki	Yes
John Calvin	Yes
John Johnson	Abstain
Karl Bois	Abstain
Kenneth Jackson	Yes
Kihong/Joshua Kim	Abstain
Kishore Kota	Yes

Attendee	Vote
Leon Bruckman	Yes
Liav Ben-Artzi	Yes
Limin Geng	Abstain
Mark Gustlin	Yes
Mark Sikkink	Yes
Massimo Sorbara	Abstain
Matthew Brown	Yes
Matthew Lawson	Yes
Mau-Lin Wu	Yes
Michael Dudek	Yes
Michael Klempa	Yes
Mike Sluyski	Yes
Mike-Peng Li	Yes
Nathan Tracy	Yes
Pei-Rong Li	Abstain
Peter Del Vecchio	Yes
Peter Stassar	Yes
Piers J G Dawe	No
Pirooz Toyserkani	Yes

Attendee	Vote
Qinhui Huang	Yes
Raymond Nering	Yes
Richard Mellitz	Yes
Rick Rabinovich	Yes
Roberto Rodes	Abstain
Sam Kocsis	Abstain
Scott Sommers	Yes
Shawn Nicholl	Yes
Shimon Muller	Yes
Shuang Yin	Yes
Taiji Kondo	Yes
Terrance Little	Yes
Thomas Huber	Yes
Thomas Palkert	Yes
Tom Issenhuth	Yes
Tom Williams	Yes
Tomoo Takahara	Yes
Upen Kareti	Yes
Viet Tran	Yes

Attendee	Vote
William Klingensmith	Yes
Xiang He	Yes
Yasuo Hidaka	Abstain
Yi Sun	Yes
Yung Sung Son	Abstain
Zvi Rechtman	Yes

Chair received a late presentation from Vasu Parthasarathy on the PCS/FEC topic. Chair asked if there was an objection to hearing the presentation. No one responded.

Chair reminded participants of the 8:00 a.m. start time on Thursday.

Chair reviewed the plans for Thursday.

Chair reminded participants to review the proposed liaison responses and to send feedback to the Task Force leadership prior to the start of the Thursday meeting.

There were some questions about the schedule on Thursday. Chair reminded participants that all presentation times are subject to change.

Meeting recessed for the day at 5:27 p.m.

16 March 2023

Meeting reconvened at 8:00 a.m. eastern time zone.

Chair made opening comments and reviewed the plans for the day. (see: https://www.ieee802.org/3/dj/public/23_03/agenda_3dfdj_c_2303.pdf) He noted that there was an updated version 'c' of the agenda.

Chair reminded participants of the late presentation from Vasu Parthasarathy that was a result of feedback and consensus building from the Wednesday meeting. Chair asked if there was opposition to hearing the presentation. No one responded.

Chair noted that the proposed liaison responses and proposed liaisons were posted on the Task Force website. Participants should review and provide feedback.

Code of Conduct. Chair presented the IEEE Code of Conduct (See Slide #48) of the IEEE SA Participation Policy slides in the agenda presentation.

Vice-Chair reminded participants to declare their affiliation in the online meeting tool. Failure to declare affiliation would result in expulsion from the meeting.

Chair reminded participants to sign into the IEEE Meeting Attendance Tool for Task Force attendance credit.

Prior to the start of presentation #29, the author had an updated presentation with editorial changes in version '02a'. Chair would post it to the website.

Presentation #29

Title	The Case for Concatenated Codes
Presenters	Vasu Parthasarathy
URL	https://www.ieee802.org/3/dj/public/23_03/parthasarathy_3dj_02a_2303.pdf

Questions of clarification were addressed.

Chair noted that he had the option to do straw polls by IEEE 802.3 voters only for information purposes.

Chair thanked the participants for working offline to build consensus.

During the discussion of Straw Poll #8, it was noted that the 400GBASE-DR2-2 objective was approved by the Task Force but not yet approved by the IEEE 802.3 Working Group.

Straw Poll #8:

I would support patra_3dj_01b_2303 slides 6 to 8, 13, 14, and 20 to 23 as part of the FEC approach for

- 800GBASE-DR4, 800GBASE-DR4-2, 800GBASE-FR4
- 400GBASE-DR2, 400GBASE-DR2-2*
- 200GBASE-DR1, 200GBASE-FR1

with FEC lane rate, convolutional interleaver details, and 1.6T support to be determined later

* Note: 400GBASE-DR2-2 pending WG approval

Results (all) Y: 80 , N: 6 , A: 22

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Break at 8:42 a.m. Resumed at 8:50 a.m.

Motion #5:	<p>Move to: Adopt patra_3dj_01b_2303 slides 6 to 8, 13, 14, and 20 to 23 as part of the FEC approach for</p> <ul style="list-style-type: none"> • 800GBASE-DR4, 800GBASE-DR4-2, 800GBASE-FR4 • 400GBASE-DR2, 400GBASE-DR2-2* (Note: 400GBASE-DR2-2 pending WG objective approval) • 200GBASE-DR1, 200GBASE-FR1 <p>with FEC lane rate, convolutional interleaver details, and 1.6T support to be determined later</p>
Technical (>= 75%)	
Moved by	Adam Healey
Second by	Mike Dudek
Results 802.3 (y/n/a)	

Motion #6:	<p>Move to: Amend motion #5 to read: Adopt patra_3dj_01b_2303 slides 6 to 8, 13, 14, and 20 to 23 as part of the FEC approach for</p> <ul style="list-style-type: none"> • 800GBASE-DR4, 800GBASE-DR4-2, 800GBASE-FR4 • 400GBASE-DR2, 400GBASE-DR2-2* (Note: 400GBASE-DR2-2 pending WG objective approval) • 200GBASE-DR1, 200GBASE-FR1 <p>with FEC lane rate, convolutional interleaver details, and 1.6T support to be determined later</p>
Technical (>= 75%)	
Moved by	Piers Dawe
Second by	Zvi Rechtman
Results 802.3 (y/n/a)	Y: 17, N: 44, A: 27 Motion failed 9:04 a.m.

The roll call vote results from Motion #6 are as follows:

Attendee	Vote
Adee Ran	Abstain
Ali Ghiasi	No
Andras De Koos	No
Angela Lambert	Abstain

Attendee	Vote
Ayal Shoval	Abstain
Brandon Gore	Abstain
Brian Welch	Abstain
Cathy Liu	No
Chan Chen	Abstain
Charles Moorwood	No
Chendi Jiang	Yes
Chul Soo Park	Abstain
Dave Cassan	No
David Malicoat	Abstain
David Ofelt	No
Edward Nakamoto	No
Eric Bernier	Yes
Eric Kimber	Abstain
Eric Maniloff	No
Ernest Muhigana	Yes
Eugene Opsasnick	No
Eyal Lieder	Abstain
Flavio Marques	Abstain

Attendee	Vote
Frank Effenberger	No
Gary Nicholl	No
Hao Ren	Abstain
Haojie Wang	Yes
Hideki Isono	Abstain
Howard Heck	No
James Weaver	No
Jeffery Maki	No
Jeffrey Rahn	Yes
John Calvin	Yes
John Johnson	No
Joseph Aronson	Abstain
Karl Bois	Yes
Kechao Huang	No
Kenneth Jackson	Abstain
Kihong/Joshua Kim	Yes
Kishore Kota	No
Leon Bruckman	Abstain
Liav Ben-Artzi	No

Attendee	Vote
Limin Geng	No
Mark Gustlin	No
Mark Sikkink	No
Massimo Sorbara	Abstain
Matthew Brown	No
Matthew Lawson	No
Mau-Lin Wu	No
Michael Dudek	No
Michael Klempa	No
Mike Sluyski	Yes
Mike-Peng Li	Yes
Nathan Tracy	No
Olindo Savi	Abstain
Pei-Rong Li	No
Peter Del Vecchio	No
Peter Stassar	No
Piers J G Dawe	Yes
Pirooz Tooyserkani	No
Qinhui Huang	Yes

Attendee	Vote
Qiwen Zhong	Abstain
Richard Mellitz	No
Rick Rabinovich	No
Roberto Rodes	No
Ruoxu Wang	No
Semmy Peng	Abstain
Shawn Nicholl	No
Shimon Muller	Abstain
Shuang Yin	No
Taiji Kondo	Yes
Takahito Fukushima	Yes
Thomas Huber	No
Thomas Palkert	No
Tom Issenhuth	Abstain
Tom Williams	Yes
Tomoo Takahara	Abstain
Toshiaki Sakai	No
Viet Tran	No
Vincent Ferretti	Abstain

Attendee	Vote
Wensheng Sun	No
William Klingensmith	No
Xiang He	Abstain
Yasuo Hidaka	Abstain
Youxi Lin	No
Yuchun Lu	Abstain
Yung Sung Son	Yes
Zvi Rechtman	Yes

Returned to Motion #5 (unmodified).

Motion #5:	<p>Move to: Adopt patra_3dj_01b_2303 slides 6 to 8, 13, 14, and 20 to 23 as part of the FEC approach for</p> <ul style="list-style-type: none"> • 800GBASE-DR4, 800GBASE-DR4-2, 800GBASE-FR4 • 400GBASE-DR2, 400GBASE-DR2-2* (Note: 400GBASE-DR2-2 pending WG objective approval) • 200GBASE-DR1, 200GBASE-FR1 <p>with FEC lane rate, convolutional interleaver details, and 1.6T support to be determined later</p>
Technical (>= 75%)	
Moved by	Adam Healey
Second by	Mike Dudek
Results 802.3 (y/n/a)	Y: 70, N: 5, A: 15 motion passed 9:10 a.m.

The roll call vote results from Motion #5 are as follows:

Attendee	Vote
Adam Healey	Yes

Attendee	Vote
Adee Ran	Yes
Ali Ghiasi	Yes
Andras De Koos	Yes
Angela Lambert	Abstain
Brandon Gore	Abstain
Cathy Liu	Yes
Chan Chen	Abstain
Charles Moorwood	Yes
Chendi Jiang	Yes
Chul Soo Park	Abstain
Dave Cassan	Yes
David Malicoat	Yes
David Ofelt	Yes
Ed Ulrichs	Yes
Edward Nakamoto	Yes
Edward Sprague	Yes
Eric Bernier	Yes
Eric Kimber	Yes
Eric Maniloff	Yes

Attendee	Vote
Ernest Muhigana	Yes
Eugene Opsasnick	Yes
Flavio Marques	Yes
Frank Effenberger	Yes
Gary Nicholl	Yes
Golam Choudhury	Yes
Guangcan Mi	Abstain
Hao Ren	Yes
Hideki Isono	Yes
Howard Heck	Abstain
James Weaver	Yes
Jeffery Maki	Yes
Jeffrey Rahn	No
John Johnson	Yes
Karl Bois	No
Kechao Huang	Yes
Kenneth Jackson	Abstain
Kihong/Joshua Kim	Yes
Kishore Kota	Yes

Attendee	Vote
Leon Bruckman	Abstain
Liav Ben-Artzi	Yes
Limin Geng	Yes
Mark Gustlin	Yes
Mark Sikkink	Yes
Massimo Sorbara	Abstain
Matthew Brown	Yes
Matthew Lawson	Yes
Mau-Lin Wu	Yes
Michael Dudek	Yes
Michael Klempa	Yes
Mike Sluyski	Abstain
Mike-Peng Li	No
Nathan Tracy	Yes
Olindo Savi	Abstain
Pei-Rong Li	Yes
Peter Del Vecchio	Yes
Peter Stassar	Yes
Piers J G Dawe	No

Attendee	Vote
Pirooz Toyserkani	Yes
Qinhui Huang	Yes
Qiwen Zhong	Yes
Raymond Nering	Yes
Richard Mellitz	Yes
Rick Rabinovich	Yes
Roberto Rodes	Yes
Ruoxu Wang	Yes
Sam Kocsis	Yes
Semmy Peng	Yes
Shawn Nicholl	Yes
Shimon Muller	Yes
Shuang Yin	Yes
Taiji Kondo	Yes
Takahito Fukushima	Yes
Thomas Huber	Yes
Thomas Palkert	Yes
Tom Issenhuth	Abstain
Tom Williams	Yes

Attendee	Vote
Tomoo Takahara	Yes
Toshiaki Sakai	Yes
Viet Tran	Yes
Vincent Ferretti	Yes
Wensheng Sun	Yes
William Klingensmith	Yes
Xiang He	Yes
Yasuo Hidaka	Abstain
Youxi Lin	Yes
Yu Quan	Yes
Yuchun Lu	Abstain
Yung Sung Son	No
Zvi Rechtman	Abstain

Chair noted that there was a straw poll requested by Tobey P.-R. Li on the AUI C2M interface tradeoffs (BER vs. receiver complexity) as part of her presentation. Chair noted that there were two other straw polls requested on the AUI C2M BER targets that could impact the requested straw poll by Tobey Li. Chair asked Tobey Li if she would be ok to defer her poll until later. She agreed.

Straw Poll #9:

I believe 200G Medium BER C2M AUI specifications will require support for:

- A. $BER \leq 1e-5$ (per segment)
- B. $BER \leq 5e-5$ (per segment)
- C. $BER \leq 1e-4$ (per segment)
- D. $BER \geq 1e-4$ (per segment)
- E. Need more information

Results (all): A: 49 , B: 30 , C: 0 , D: 0 , E: 25

Straw Poll #10:

I believe 200G High BER C2M AUI specifications will require support for:

- A. BER $\leq 1e-5$ (per segment)
- B. BER $\leq 5e-5$ (per segment)
- C. BER $\leq 1e-4$ (per segment)
- D. BER $\geq 1e-4$ (per segment)
- E. Need more information

(pick one)

Results (all): Results (all): A: 16 , B: 47 , C: 17 , D: 1 , E:23

Break at 9:55 a.m. Resumed at 10:22 a.m.

Chair noted that the straw poll requested by Tobey P.-R. Li would be tabled as a result of offline discussion and straw polls #10 and #11.

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Straw Poll #11:

I support adoption of C-band (~1550nm) operation for 800GBASE-LR1 and 800GBASE-ER1 PMDs.

(Choose one)

Results (all) Y: 21 , N: 41 , NMI: 26 , A: 28

Results (802.3 voters only) Y: 20 , N: 22 , NMI: 22 , A:22

Chair reminded participants of the proposed liaisons and liaison responses posted to the Task Force website. Chair noted that the liaison response to the OIF would include P802.3df D2.0 as an attachment.

Chair reviewed the proposed liaison to OIF on the CMIS-LT topic. (see:

https://www.ieee802.org/3/dj/public/23_03/ghiasi_3dj_01_2303_redacted.pdf) Changes were made and saved. (see: https://www.ieee802.org/3/dj/public/23_03/IEEE_802d3_to_OIF_3dj_2303_CMIS_draft_redacted.pdf)

Chair reminded participants of the intent to progress the P802.3df specification to the Working Group ballot during the closing plenary. He asked the Chief Editor, Matt Brown, for a status of Draft 2.0. The Chief Editor confirmed that the document did not contain TBDs.

Presentation #30

Title	Comment Entry Tutorial
Presenters	Matt Brown
URL	https://ieee802.org/3/ballots/p802d3_comment_entry_tutorial.pdf

Questions of clarification were addressed.

Chair noted that he requested to present a joint P802.3df and P802.3dj Task Force closing report at the IEEE 802.3 Working Group meeting.

Chair reviewed the proposed liaison to OIF on the 800LR topic. (see: https://www.ieee802.org/3/df/public/23_03/dambrosia_3df_02a_2303_Redacted.pdf) Changes were made and saved. (see: https://www.ieee802.org/3/df/public/23_03/IEEE_802d3_to_OIF_3df_2303_800GLR_draft_redacted.pdf)

Chair reviewed the proposed liaison to ITU. (see: https://www.ieee802.org/3/df/public/23_03/dambrosia_3df_01a_2303_Redacted.pdf) Changes were made and saved. (see: https://www.ieee802.org/3/df/public/23_03/IEEE_802d3_to_ITU_3df_2303_draft_redacted.pdf)

Chair reminded participants to sign into IMAT for Task Force and IEEE 802.3 Working Group attendance.

Motion #7:	<p>Move that the IEEE P802.3df and P802.3dj Task Forces approve:</p> <ul style="list-style-type: none"> • IEEE_802d3_to_ITU_3df_2303_draft_redacted.pdf with editorial license granted to the Chair (or his appointed agent) as a liaison communication from the IEEE 802.3 Working Group to ITU. • IEEE_802d3_to_OIF_3dj_2303_CMIS_draft_redacted.pdf with editorial license granted to the Chair (or his appointed agent) as a liaison communication from the IEEE 802.3 Working Group to OIF. • IEEE_802d3_to_OIF_3df_2303_800GLR_draft_redacted.pdf with editorial license granted to the Chair (or his appointed agent) as a liaison communication from the IEEE 802.3 Working Group to OIF.
Technical (>= 75%)	
Moved by	Tom Huber
Second by	Ali Ghiasi
Results 802.3 (y/n/a)	Passed by unanimous consent 11:30 a.m.

Chair noted that he would be requesting at the Working Group meeting to allow motions to be taken at joint meetings between P802.3cw, P802.3df and P802.3dj.

Chair noted that he would be coordinating with the P802.3dk on the meeting schedule.

Chair reviewed the future meetings (see slide #24) in agenda version 'c'. (see: https://www.ieee802.org/3/dj/public/23_03/agenda_3dfdj_c_2303.pdf) He reviewed the future ad hoc meetings and that the details would be announced on the email reflectors.

Chair reviewed the summary of the progress made during the plenary week. (see: slides #19-20). Chair noted that was using the nomenclature "800GBASE-LR4" for the 10 km over 4 pair SMF objective and the nomenclature "800GBASE-LR1" for the 10 km over 1 pair SMF.

Kent Lusted, P802.3dj TF Electrical track chair, noted that the progress on the copper cable objective had been stalled for some time and would reach out to individuals to understand the next steps.

Chair noted that he would continue to prioritize presentations having multiple co-authors from different affiliations. He encouraged participants to build consensus offline.

Chair noted that he would prioritize contributions on current and existing objectives over new objectives. He encouraged participants to use the ad hoc meetings to build consensus.

Chair reminded participants considering inclusion of relative cost analysis in contributions:

- Relative Cost analysis is a potential consideration in technical debates, but be aware such presentations may require IEEE Risk management review if individuals do not follow guidelines provided in IEEE SA Anti-trust policy available at <<http://standards.ieee.org/wp-content/uploads/2022/02/antitrust.pdf>>.
- Further information about IEEE 802.3 cost discussion can be found in 'Presentation on Cost Discussions to IEEE 802.3 Working Group' <https://www.ieee802.org/3/100GNGOPTX/public/may12/lindsay_01_0512_optx.pdf>.
- Please note that such IEEE Risk management review can take up to ~30 days. Individuals not budgeting sufficient time for review may have presentations scheduled for later meetings to allow these reviews.

Chair reminded participants of the IEEE Code of Conduct (See Slide #48) and to follow decorum.

Chair thanked the participants for their hard work during the plenary meeting.

Meeting adjourned at 11:55 a.m.

Attendees

Name	Employer	Affiliation	M	T	W	Th
Abbott, John	Corning Incorporated	Corning Incorporated	X			
Aekins, Rob	Legrand	Legrand			X	X
Aronson, Joseph	Texas Instruments Inc.	Texas Instruments Inc.				X
Barakatain, Masoud		Huawei Technologies Co., Ltd	X	X	X	X
Beauregard, Francois	Belden Canada ULC	Belden	X	X	X	X
Ben-Artzi, Liav	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.		X	X	X
Bernier, Eric	Huawei Technologies Canada Co., Ltd.	Huawei Technologies Canada Co., Ltd.	X	X	X	X
Bois, Karl	NVIDIA Corporation	NVIDIA Corporation	X	X	X	X
Brooks, Paul	Viavi solutions GmbH	Viavi Solutions	X	X	X	
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada		X	X	
Bruckman, Leon	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
Calvin, John	Keysight Technologies	Keysight Technologies	X	X	X	X
Cassan, Dave	Alphawave	Alphawave	X	X	X	X
Castro, Jose	Panduit	Panduit Corp.		X	X	
Chan Carusone, Anthony		Alphawave Semi; University of Toronto	X	X	X	X
Chen, Chan	Self Employed	Self Employed	X	X	X	X

Name	Employer	Affiliation	M	T	W	Th
cheng, weiqiang	China Mobile Limited	China Mobile Limited		X	X	X
Choudhury, Golam	OFS	OFS				X
Cole, Christopher R	Finisar Corporation	Finisar Corporation	X	X	X	X
D'Ambrosia, John	Futurewei Technologies, U.S. Subsidiary of Huawei	Futurewei Technologies, U.S. Subsidiary of Huawei	X	X	X	X
Dawe, Piers J G	NVIDIA	Nvidia	X	X	X	X
de Koos, Andras	Microchip Technology Inc	Microchip Technology, Inc.	X	X	X	X
Del Vecchio, Peter		Broadcom Corporation		X	X	X
Diminico, Christopher	M C Communications, LLC	Panduit Corp.			X	
Dube, Kathryn	UNH-IOL	UNH-IOL	X	X	X	X
Dudek, Michael	Marvell	Marvell	X	X	X	X
Dumais, Patrick		Huawei Technologies Co., Ltd	X	X	X	X
Effenberger, Frank	Futurewei Technologies	Futurewei Technologies		X	X	X
Estes, David	Spirent Communications	Spirent Communications		X	X	
FAn, DAWEI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
Farhoodfar, Arash	Inphi Corporation	Inphi Corporation		X	X	
Ferretti, Vincent	Corning Incorporated	Corning Incorporated			X	X
FUKUSHIMA, TAKAHITO	Dexerials Corporation	Dexerials	X			X

Name	Employer	Affiliation	M	T	W	Th
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
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	X	X	X
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Haasz, Jodi	ieee sa	IEEE Standards Association (IEEE-SA)	X			X
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
Healey, Adam	Broadcom Inc.	Broadcom Inc.	X	X	X	X
Heck, Howard	Intel	Intel	X	X	X	X
Hegde, Rajmohan	Broadcom Corporation	Broadcom Ltd.		X		X
Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor	X	X	X	X
Hozeska, Charles		Cernitin Solutions			X	
Huang, Kechao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
HUANG, QINHUI	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
Huber, Thomas	Nokia	Nokia	X	X	X	X
Ingham, Jonathan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	

Name	Employer	Affiliation	M	T	W	Th
Isono, Hideki	Fujitsu Optical Components Limited	Fujitsu Optical Components Limited		X	X	X
Issenhuth, Tom	Issenhuth Consulting, LLC	Huawei Technologies Co., Ltd	X	X	X	X
Jackson, Kenneth	Sumitomo Electric Industries, LTD	Sumitomo Electric Industries, LTD	X	X	X	X
Jiang, Chendi	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
Jiang, Chenhui		Sicoya	X	X	X	X
Johnson, John	Broadcom Corporation	Broadcom Corporation		X	X	X
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Kawatsu, Yasuaki	APRESIA Systems	APRESIA Systems		X	X	
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.	X	X	X	X
Kim, Yongbum	Tenstorrent	Tenstorrent	X	X	X	
Kimber, Eric	Semtech Ltd	Semtech Ltd	X	X	X	X
Klempa, Michael	Alphawave Semi	Alphawave IP	X	X	X	X
Klingensmith, William	U.S. Federal Government	DoD	X	X	X	X
Koch, Lavi		Lavi Koch Nvidia	X	X	X	X
Kocsis, Sam	Amphenol Corporation	Amphenol Corporation	X	X	X	X
Koehler, Daniel	MorethanIP	Synopsys, Inc.	X	X	X	X
Kondo, Taiji	MegaChips Corporation	Dexerials Corporation	X	X	X	X

Name	Employer	Affiliation	M	T	W	Th
Kota, Kishore	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.		X	X	X
Kuschnerov, Maxim	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Duesseldorf GmbH			X	X
Lambert, Angela	Corning Incorporated	Corning Incorporated	X	X	X	X
Law, David	Hewlett Packard Enterprise	Hewlett Packard Enterprise		X		
Lawson, Matthew	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Lewis, Jon	Dell Technologies	Dell Technologies			X	
Li, Mike-Peng	Intel	Intel	X	X	X	X
Li, Pei-Rong	MediaTek Inc.	MediaTek Inc.	X	X	X	X
Lieder, Eyal	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X	X
Lim, Jane	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Lin, Youxi	Huawei Technologies Duesseldorf GmbH	Huawei Technologies Co., Ltd	X	X	X	X
Little, Terrance	Foxconn Electronics Inc.	Foxconn Electronics Inc.	X	X	X	X
Liu, Cathy	Broadcom Corporation	Broadcom Corporation	X	X	X	X
Liu, Hai-Feng	HG Genuine	HG Genuine		X	X	
Liu, Karen	Nubis Communications	Nubis Communications	X	X	X	X
LIU, XIANG	Huawei R&D USA	Huawei Technologies Co., Ltd	X	X	X	X
liu, xiaoxuan		ZTE Corporation	X			
Lu, Yuchun	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X

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Luo, Yuanqiu	Futurewei Technologies	Futurewei Technologies		X	X	X
Lusted, Kent	Intel	Intel	X	X	X	X
Maguire, Valerie	Copperopolis	The Siemon Company			X	
Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.	X	X	X	X
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components	X	X	X	X
Maniloff, Eric	Ciena Corporation	Ciena Corporation		X	X	X
Marques, Flavio	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC	X	X	X	X
Maruyama, Takuto		Mitsubishi Electric US, Inc		X	X	
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.	X	X	X	X
mi, guangcan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X
Moorwood, Charles	Keysight Technologies	Keysight Technologies	X	X	X	X
Muhigana, Ernest		Lumentum	X	X	X	X
Muller, Shimon	Enfabrica Corp.	Enfabrica	X	X	X	X
MURAKAMI, YUKI		Fujitsu Limited	X	X	X	X
Murty, Ramana	Broadcom Inc.	Broadcom Corporation	X		X	
Nakamoto, Edward	Spirent Communications	Spirent Communications	X	X	X	X
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.		X	X	X

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Nicholl, Gary	Cisco Systems, Inc.	Cisco Systems, Inc.			X	X
Nicholl, Shawn	Xilinx	Advanced Micro Devices (AMD)	X	X	X	X
Ninomiya, Takuya		Senko Advanced Components		X	X	
Noujeim, Leesa	Google	Google	X	X	X	X
Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.	X	X	X	X
Omori, Kumi	NEC Corporation	NEC Corporation	X	X	X	X
Opsasnick, Eugene	Broadcom Inc.	Broadcom Inc.	X	X	X	X
Palkert, Thomas	Macom, Samtec	Samtec-Macom	X	X	X	X
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.	X	X	X	X
Parkholm, Ulf	Telefon AB LM Ericsson	Telefon AB LM Ericsson		X		
Parsons, Earl	CommScope, Inc.	CommScope, Inc.		X		X
Parthasarathy, Vasu	Broadcom Corporation	Broadcom Corporation	X	X	X	
Patra, Ienin	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.		X	X	
peng, semmy		Huawei Technologies Co., Ltd	X	X	X	X
Pepper, Gerald	Keysight Technologies	Keysight Technologies	X		X	
Piehler, David	Dell Technologies	Dell	X	X	X	X
Quan, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X

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Rabinovich, Rick	Keysight Technologies	Keysight Technologies	X	X	X	X
Rahn, Jeffrey	Meta Platforms Inc.	Facebook	X	X	X	X
Ran, Adee	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Rechtman, Zvi	NVIDIA	NVIDIA	X	X	X	X
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X
Riani, Jamal		Marvell Semiconductor, Inc.	X	X	X	X
Rodes, Roberto	II-VI	II-VI	X	X	X	X
Sakai, Toshiaki	Socionext Inc.	socionext	X	X	X	X
Sambasivan, Sam	AT&T	AT&T		X	X	
Savi, Olindo	Hubbell Incorporated	Hubbell Incorporated		X	X	X
Sekel, Steve		Wilder Technologies	X	X	X	X
Shah, Anup	Siemens Corporation	Siemens EDA	X	X	X	X
She, Qingya	Fujitsu Network Communications	Fujitsu Network Communications		X	X	
Sheffi, Nir		Banias Labs		X	X	X
Shoval, Ayal	Synopsys, Inc.	Synopsys, Inc.	X	X	X	X
Shrikhande, Kapil	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.		X	X	X
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.		X	X	
Sikkink, Mark	Hewlett Packard Enterprise	Hewlett Packard Enterprise	X	X	X	X

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Sinn, Peter		Alphawave IP	X	X	X	X
Slavick, Jeff	Broadcom Inc	Broadcom Inc	X	X	X	X
Sluyski, Mike		Cisco Systems, Inc.	X	X	X	X
Sommers, Scott	Molex LLC	Molex Incorporated	X	X	X	X
Son, Yung Sung	Optomind Inc	Optomind Inc	X	X	X	X
Sorbara, Massimo	GLOBALFOUNDRIES	GLOBALFOUNDRIES		X	X	X
Souvignier, Tom	Broadcom Corporation	Broadcom Corporation			X	
Sprague, Edward	Infinera Corporation	Infinera Corporation	X	X	X	X
Stassar, Peter	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X
Sun, Junqing	Credo Semiconductor	Credo Semiconductor	X	X	X	
Sun, Wensheng	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X	X
Sun, Yi		OFS		X	X	
TAKAHARA, TOMOO	FUJITSU LABORATORIES LIMITED	FUJITSU LIMITED		X	X	
Tellas, Ronald	Belden	Belden				X
Terada, Masaru	FURUKAWA ELECTRIC	FURUKAWA ELECTRIC		X	X	X
Theodoras, James	HG Genuine	HG Genuine		X	X	
Tooyserkani, Pirooz	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X

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Tracy, Nathan	TE Connectivity	TE Connectivity	X	X	X	X
Tran, Viet	Keysight Technologies	Keysight Technologies	X	X	X	X
Ulrichs, Ed	Intel	Intel	X		X	X
Venkataraman, Srinivas		Facebook	X	X	X	
Wang, Haojie	China Mobile Communications Corporation (CMCC)	China Mobile Communications Corporation (CMCC)		X	X	X
Wang, Ruoxu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd	X	X	X	X
Wang, Xinyuan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	
Watanabe, Yojiro		Mitsubishi Electric US, Inc.		X	X	
Weaver, James	Arista Networks	Arista Networks	X	X	X	X
Welch, Brian	Cisco Systems, Inc.	Luxtera	X	X	X	X
Wey, Jun Shan	Verizon Communications	Verizon Communications		X	X	
Williams, Tom	Cisco Systems, Inc.	Cisco Systems, Inc.	X	X	X	X
Wingrove, Michael	Ciena Corporation	Ciena Corporation	X	X	X	X
Wong, Henry		Alphawave Semi	X	X	X	X
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.	X	X	X	X
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.	X	X	X	X
Xu, Yu	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X

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Yin, Shuang		Google	X	X	X	X
Zebian, Sara		Google	X			X
Zhang, Bo	Marvell Technology, Inc	Marvell Technology, Inc	X		X	X
Zhong, Qiwen	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd		X	X	X
Zivny, Pavel	Tektronix, Inc.	Tektronix, Inc.	X	X	X	X