

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

January 2022 Electronic Session

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

Session called to order at 10:03 am ET (all times ET), 11 Jan 2022

Meeting called to order by David Law, IEEE 802.3 WG Chair.

David Law appointed Kent Lusted to be Recording Secretary

Mr. Law noted that Direct Vote Live information had been sent via email to 802.3 WG Voters.

Mr. D'Ambrosia was moved to the Zoom lobby, while Mr. Law took the following confirmation motion.

| | |
|----------------------|--|
| Motion #1 | Move to confirm John D'Ambrosia as the IEEE P802.3df 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Task Force Chair |
| M: | Jim Weaver |
| S: | Robert Lingle Jr. |
| 802.3 Voters (y/n/a) | Passed by unanimous consent |

Mr. D'Ambrosia returned to the call and were congratulated by Mr. Law on being confirmed by the Task Force. Mr. Nowell was moved to the Zoom lobby, while Mr. Law took the following confirmation motion.

| | |
|----------------------|---|
| Motion #2 | Move to confirm Mark Nowell as the IEEE P802.3df 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Task Force Vice-Chair |
| M: | Robert Lingle Jr. |
| S: | Ali Ghiasi |
| 802.3 Voters (y/n/a) | Passed by unanimous consent |

Mr. Nowell returned to the call and were congratulated by Mr. Law on being confirmed by the Task Force.

John D'Ambrosia took over chairing the meeting at 10:11 am.

D'Ambrosia noted IMAT information for the meeting and asked everyone to sign in.

Presentation #1

Presenters

URL

Agenda and General Information

John D'Ambrosia

https://www.ieee802.org/3/df/public/22_01/agenda_3df_d_220111.pdf

Chair asked if there were any objections to the agenda, there were none, and the agenda (Slide #2) was considered approved.

Minutes – 16 Nov 2021

https://www.ieee802.org/3/B400G/public/21_1116/minutes_b400G_a_211116_unapproved.pdf

Chair asked if there were any other corrections. There were none. Chair asked if there were any objections to approving the minutes. There were none, and the minutes were considered approved.

Chair reviewed the Task Force Project Information / Organization. See Slides #6 & 7. Chair noted the 4 task force reflectors, and indicated individuals needed to join each separately. Chair also noted that Task Force information, such as meeting announcements would be sent to stds-802-3-b400g@listserv.ieee.org.

Chair Reviewed Task Force Comment Phase. See Slide #8.

Chair reviewed Ground Rules. See Slide #9. Chair modified slide to note proper voting on straw polls and motions. Updated presentation noted above.

Chair noted that the information regarding the procedures had been sent out, 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 #28) 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 #33) 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 #37) 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 Role of the Chair. See Slide #10. Chair noted this also applied to the Vice-Chair. Chair ruled Task Force Voting. See Slide #11.

D’Ambrosia reviewed liaisons for the Task Force to consider-

- https://www.ieee802.org/3/minutes/nov21/incoming/SG15-LS331_Redacted.pdf

Chair noted that a proposed response had been uploaded to the webpage. Individuals were asked to review the proposed response and get back to the Chair with any feedback prior to the 18 Jan meeting, when it would be considered.

D’Ambrosia asked Nowell to assume chairing the call, so he could co-present the next presentation. Nowell started chairing the call approximately 10:37 am.

| | |
|------------------------|---|
| Presentation #2 | The IEEE P802.3df Project – An Overview |
| Presenters | John D’Ambrosia |
| URL | https://www.ieee802.org/3/df/public/22_01/dambrosia_3df_01_220111.pdf |

General questions and discussion.

D’Ambrosia resumed chairing the call at approximately 11:03 am.

Presentation #3 **The Road to a Completed Standard**
Presenters Matt Brown
URL https://www.ieee802.org/3/df/public/22_01/brown_3df_01a_220111.pdf

General questions and discussion.

It was noted that there are instances in the presentation that the term “Sponsor Ballot” is used, but this should be changed to “Standards Association Ballot” or “SA Ballot.” Mr. Brown will provide an update to the presentation making these corrections. Update noted above.

Presentation #4 **The IEEE P802.3df Standard – Document Introduction**
Presenters Matt Brown
URL https://www.ieee802.org/3/df/public/22_01/brown_3df_02a_220111.pdf

General questions and discussion.

Meeting broke at 11:42am
Meeting reconvened at 11:47am.

Presentation #5 **Nomenclature: The Joy of PMD Names**
Presenters Kent Lusted
URL https://www.ieee802.org/3/df/public/22_01/lusted_3df_01_220111.pdf

General questions of clarification were answered.

| | |
|---------------|---|
| Straw Poll #1 | For the next Ethernet rate, I prefer nomenclature in the style of: <ul style="list-style-type: none">• Option A: 1600G (e.g., 1600GBASE-CR8, 1600GAUI-16 C2x and 1600GAUI-8 C2x)• Option B: 1.6T (e.g., 1.6TBASE-CR8, 1.6TAUI-16 C2x and 1.6TAUI-8 C2x)• Option C: 1T6• No Opinion |
| All | Option A - 11 Option B - 87 Option C - 8 No Opinion - 2 |

| | |
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| Straw Poll #2 | <ul style="list-style-type: none"> I support using the nomenclature in the AUI, BP, Cu cable, MMF 50m and MMF 100m columns of lusted_3df_01_220111, slide 25 |
| All | Yes - 100 No - 1 Abstain - 8 |

Reference: lusted_3df_01_220111

The Full Table – 1.6T

To be named later

| Ethernet Rate | Assumed Signaling Rate | AUI | BP | Cu Cable | MMF 50m | MMF 100m | SMF 500m | SMF 2km | SMF 10km | SMF 40km |
|---------------|------------------------|------------|---------------|--------------|---------------|---------------|--------------|--|----------|----------|
| 200 Gb/s | 200 Gb/s | 200GAUI-1 | | 200GBASE-CR1 | | | 1 pair = TBD | 1 pair = TBD | | |
| 400 Gb/s | 200 Gb/s | 400GAUI-2 | | 400GBASE-CR2 | | | 2 pair = TBD | | | |
| 800 Gb/s | 100 Gb/s | 800GAUI-8 | 800GBA SE-KR8 | 800GBASE-CR8 | 800GBA SE-VR8 | 800GBA SE-SR8 | 8 pair = TBD | 8 pair = TBD | | |
| | 200 Gb/s | 800GAUI-4 | | 800GBASE-CR4 | | | 4 pair = TBD | 1) Over 4 pairs = TBD 2) Over 4 λ's = TBD | | |
| | TBD | | | | | | | | TBD | TBD |
| 1.6 Tb/s | 100 Gb/s | 1.6TAUI-16 | | | | | | | | |
| | 200 Gb/s | 1.6TAUI-8 | | 1.6TBASE-CR8 | | | 8 pair = TBD | 8 pair = TBD | | |

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Chair reminded everyone about deadline for requesting presentation time for the February 2022 session.

Session recessed for the day @12:36pm.

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

January 2022 Electronic Session

Session reconvened at 10:02 am ET (all times ET), 18 Jan 2022

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

Chair showed the IMAT information.

Chair noted that the information regarding the procedures had been sent out, 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 #28) of the IEEE SA Patent Policy slides. Chair did call for Potentially Essential Patents, and no one came forward.

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Chair presented the second slide (See Slide #37) 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 reminded everyone that presentation requests for the February 2022 session were due this Friday, AoE

| | |
|------------------------|---|
| Presentation #6 | Architecture Overview |
| Presenters | Mark Gustlin |
| URL | https://www.ieee802.org/3/df/public/22_01/gustlin_3df_01_220118.pdf |

General questions and discussion.

| | |
|------------------------|---|
| Presentation #7 | Electrical PMDs and AUIs Overview |
| Presenters | Kent Lusted |
| URL | https://www.ieee802.org/3/df/public/22_01/lusted_3df_01_220111.pdf |

General questions and discussion.

Chair noted implementing channel data repository on the P802.3df webpage.

Break at 11:30am ET.

Meeting reconvened at 11:35 am ET.

Presentation #8**Optical PMDs Overview**

Presenters

Mark Nowell

URL

https://www.ieee802.org/3/df/public/22_01/lusted_3df_01_220111.pdf

General questions and discussion.

Presentation #9**Proposed Response to ITU-T SG15 Liaison**

Presenters

John D'Ambrosia

URL

https://www.ieee802.org/3/df/public/22_01/dambrosia_3df_02a_22_0111_Redacted.pdf

D'Ambrosia displayed the proposed liaison response and noted the file was being renamed to "IEEE_802d3_to_ITU_3df_0122_draft.pdf" for TF editing. No edits to the document were made.

| | |
|-----------------------|---|
| Motion #3 | Move that the IEEE P802.3df Task Force approve: <ul style="list-style-type: none"> IEEE_802d3_to_ITU_3df_0122_draft.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-T SG15. |
| Moved by | Frank Effenberger |
| Second by | Kent Lusted |
| Results 802.3 (y/n/a) | Motion Passes by Unanimous Consent |

D'Ambrosia displayed results of previous straw polls related to nomenclature.

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|-----------------------|---|
| Motion #4 | Move to adopt the nomenclature in the AUI, BP, Cu cable, MMF 50m and MMF 100m columns of lusted_3df_01_220111.pdf, slide 25 |
| Moved by | Kent Lusted |
| Second by | Adee Ran |
| Results 802.3 (y/n/a) | Motion Passes by Unanimous Consent |

Chair reviewed future meetings and re-iterated date for presentation requests for the February session.

Session adjourned @ 12:48pm ET.

Attendees (per IMAT)

| Participant | Affiliation | 11-Jan | 18-Jan |
|------------------------|--|--------|--------|
| Aekins, Rob | Legrand | | x |
| Akbaba, Enis | Maxim Integrated Products | x | x |
| Ben-Artzi, Liav | Marvell Semiconductor, Inc. | | x |
| Bernier, Eric | Huawei Technologies Canada; Huawei Technologies Co., Ltd | x | x |
| Bois, Karl | NVIDIA Corporation | x | x |
| Brown, Matthew | Huawei Technologies Canada | x | |
| Bruckman, Leon | Huawei Technologies Co., Ltd | x | x |
| Calvin, John | Keysight Technologies | x | x |
| Cassan, Dave | Alphawave | x | x |
| Chacon Simon, Geoffrey | Synopsys, Inc. | x | x |
| Chang, Xin | Huawei Technologies Co., Ltd | x | x |
| Chang, Yongmao | Source Photonics | | x |
| Chen, Chan | Applied Optoelectronics, Inc. | x | x |
| Chen, Yan | Broadcom Corporation | x | |
| cheng, weiqiang | China Mobile Communications Corporation (CMCC) | x | x |
| Choudhury, Golam | OFS | x | x |
| Connaughton, Michael | Leviton Manufacturing Co. | x | x |
| D'Ambrosia, John | Futurewei Technologies, U.S. Subsidiary of Huawei | x | x |
| Dawe, Piers J G | Nvidia | x | x |
| Didde, Stephen | Keysight Technologies | x | |
| Dube, Kathryn | UNH-IOL | x | x |
| Dudek, Michael | Marvell | x | x |
| Effenberger, Frank | Futurewei Technologies | | x |
| Estes, David | Spirent Communications | | x |
| Ewen, John | Marvell | x | x |
| Ferretti, Vincent | Corning Incorporated | x | x |
| FILIPPOU, DIMITRIS | Dimitris Filippou; I2QS | x | x |
| Gao, Xiangrong | Huawei Technologies Co., Ltd | | x |
| Geng, Limin | Huawei Technologies Co., Ltd | x | x |
| Ghiasi, Ali | Ghiasi Quantum LLC; Marvell Semiconductor, Inc. | x | x |
| Goodwill, Dominic | Huawei Technologies Canada; Huawei Technologies Co., Ltd | x | x |
| Gore, Brandon | Samtec, Inc. | x | x |
| Gorshe, Steven Scott | Microchip Technology, Inc. | x | x |
| Gustlin, Mark | Cisco Systems, Inc. | x | x |
| Haasz, Jodi | IEEE Standards Association (IEEE-SA) | x | x |
| Han, Ruibo | China Mobile Communications Corporation (CMCC) | x | |
| Haser, Alexandra | Molex Incorporated | x | x |
| He, Xiang | Huawei Technologies Co., Ltd | x | x |
| Healey, Adam | Broadcom Inc. | x | x |
| Heck, Howard | Intel Corporation | x | |
| Hegde, Rajmohan | Broadcom Ltd. | | x |
| Hidaka, Yasuo | Credo Semiconductor | x | |
| Huang, Kechao | Huawei Technologies Co., Ltd | x | |
| HUANG, QINHUI | Huawei Technologies Co., Ltd | x | x |

| | | | |
|--------------------------|--|---|---|
| Huber, Thomas | Nokia | x | x |
| Hutchins, Jeff | Ranovus | x | x |
| Ingham, Jonathan | Huawei Technologies Canada; Huawei Technologies Co., Ltd | | x |
| Isono, Hideki | Fujitsu Optical Components Limited | x | x |
| Issenhuth, Tom | Huawei Technologies Co., Ltd | x | x |
| Jackson, Kenneth | Sumitomo Electric Industries, LTD | x | x |
| Johnson, John | Broadcom Corporation | x | x |
| Kabra, Lokesh | Synopsys, Inc. | x | |
| Kamino, John | OFS | | x |
| Kao, Chienping | Cornelis Networks | x | x |
| Kareti, Upen | Cisco Systems, Inc. | x | x |
| Kawatsu, Yasuaki | APRESIA Systems | | x |
| Kim, Kihong/Joshua | Hirose Electric (USA), Inc. | x | x |
| Kim, Yongbum | Tenstorrent | | x |
| Kimber, Eric | Semtech Ltd | x | x |
| Kinningham, Alan | I-PEX (division of Dai-Ichi Seiko) | x | x |
| Klempa, Michael | Amphenol Corporation | x | x |
| Klingensmith, William | DoD | x | x |
| Kochuparambil, Elizabeth | Cisco Systems, Inc. | x | x |
| Koehler, Daniel | Synopsys, Inc. | x | x |
| Kota, Kishore | Marvell Semiconductor, Inc. | x | x |
| Kuschnorov, Maxim | Huawei Technologies Duesseldorf GmbH | x | |
| Lam, Cedric | Google | x | x |
| Lapierre, Dominic | EXFO Inc. | | x |
| Lawson, Matthew | Cisco Systems, Inc. | | x |
| Le Cheminant, Greg | Keysight Technologies | | x |
| Levin, Itamar | Intel Corporation | x | x |
| Lewis, David | Lumentum Inc. | x | |
| Li, Mike-Peng | Intel Corporation | x | x |
| Li, Pei-Rong | MediaTek Inc. | x | x |
| Lim, Jane | Cisco Systems, Inc. | x | x |
| Lin, Youxi | Huawei Technologies Co., Ltd | x | x |
| Lingle, Robert | OFS | x | x |
| Liu, Hai-Feng | HG Genuine | x | x |
| Liu, Karen | Nubis Communications | x | x |
| Lusted, Kent | Intel Corporation | x | x |
| Maguire, Valerie | The Siemon Company | x | x |
| Mak, Gary | inphi | x | x |
| Maki, Jeffery | Juniper Networks, Inc. | x | x |
| Malicoat, David | Malicoat Networking Solutions; SENKO Advanced Components | x | x |
| Maniloff, Eric | Ciena Corporation | x | x |
| Marques, Flavio | FURUKAWA ELECTRIC | x | |
| Marris, Arthur | Cadence Design Systems, Inc. | x | x |
| Mazzini, Marco | Cisco Systems, Inc. | x | |
| Mellitz, Richard | Samtec, Inc. | x | |
| mi, guangcan | Huawei Technologies Co., Ltd | x | x |
| Moorwood, Charles | Keysight Technologies | x | x |

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|-------------------------|--------------------------------------|---|---|
| Mu, Jianwei | Hisense | | x |
| Muller, Shimon | Enfabrica Corp. | x | x |
| Murty, Ramana | Broadcom Corporation | x | x |
| Nakamoto, Edward | Spirent Communications | x | x |
| Nering, Raymond | Cisco Systems, Inc. | x | x |
| Nicholl, Gary | Cisco Systems, Inc. | x | x |
| Nicholl, Shawn | Xilinx | x | x |
| Nikolich, Paul | Self Employed | x | |
| Noujeim, Leesa | Google | x | x |
| Nowell, Mark | Cisco Systems, Inc. | x | x |
| Ofelt, David | Juniper Networks, Inc. | x | x |
| Omori, Kumi | NEC Corporation | x | x |
| Opsasnick, Eugene | Broadcom Inc. | x | x |
| Palkert, Thomas | Samtec-Macom | x | x |
| PARK, CHUL SOO | Juniper Networks, Inc. | x | x |
| Parsons, Earl | CommScope, Inc. | x | x |
| peng, semmy | Huawei Technologies Co., Ltd | | x |
| Pepper, Gerald | Keysight Technologies | x | x |
| Piehler, David | Dell | x | x |
| Pittala, Fabio | Huawei Technologies Duesseldorf GmbH | x | |
| Quan, Yu | Huawei Technologies Co., Ltd | | x |
| Rabinovich, Rick | Keysight Technologies | | x |
| Radhamohan, Rajeshmohan | Cisco Systems, Inc. | x | x |
| Rahn, Jeffrey | Facebook | x | x |
| Ran, Adee | Cisco Systems, Inc. | x | x |
| Rechtman, Zvi | NVIDIA | x | x |
| Ren, Hao | Huawei Technologies Co., Ltd | x | x |
| Rodes, Roberto | II-VI | x | x |
| Sakai, Toshiaki | socionext | x | x |
| Sarlet, Gert | II-VI Incorporated | x | x |
| Savi, Olindo | Hubbell Incorporated | x | x |
| Shahramian, Shayan | Alphawave | x | x |
| Shrikhande, Kapil | Marvell Semiconductor, Inc. | x | x |
| Shukla, Priyank | Synopsys, Inc. | x | x |
| Simms, William | NVIDIA Corporation | x | x |
| Slavick, Jeff | Broadcom Inc | x | x |
| Sommers, Scott | Molex Incorporated | x | x |
| Son, Yung Sung | Optomind Inc | x | x |
| Sorbara, Massimo | GLOBALFOUNDRIES | x | x |
| Sprague, Edward | Infinera Corporation | x | x |
| Srivastava, Atul | NTT Electronics | x | |
| Stassar, Peter | Huawei Technologies Co., Ltd | x | x |
| Stone, Robert | Facebook | x | x |
| SU, CHANGZHENG | Huawei Technologies Co., Ltd | x | x |
| Sun, Junqing | Credo Semiconductor | x | x |
| Sun, Yi | OFS | x | |
| Tailor, Bharat | Semtech Canada Corporation | x | x |
| TAKAHARA, TOMOO | FUJITSU LIMITED | x | x |

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| Theodoras, James | HG Genuine | x | x |
| tomofuji, hiroaki | FUJITSU | | x |
| Tooyserkani, Pirooz | Cisco Systems, Inc. | x | x |
| Tracy, Nathan | TE Connectivity | x | x |
| Tran, Viet | Keysight Technologies | x | x |
| Trowbridge, Stephen | Nokia | | x |
| Ulrichs, Ed | Intel Corporation | x | x |
| Wang, Haojie | China Mobile Communications Corporation (CMCC) | x | x |
| Wang, Ruoxu | Huawei Technologies Co., Ltd | x | x |
| Wang, Xinyuan | Huawei Technologies Co., Ltd | x | |
| Weaver, James | Arista Networks | x | x |
| Welch, Brian | Luxtera | x | x |
| Whiteman, Cameron | Infinera Corporation | x | x |
| Williams, Tom | Cisco Systems, Inc. | | x |
| Wu, Mau-Lin | MediaTek Inc. | x | x |
| Xu, Yu | Huawei Technologies Co., Ltd | x | |
| Young, James | CommScope | x | |
| Zebian, Sara | Google | x | |
| Zhang, Bo | Marvell Technology, Inc | x | x |
| Zhiwei, Yang | ZTE Corporation | | x |
| Zhuang, Yan | Huawei Technologies Co., Ltd | x | x |
| Zivny, Pavel | Tektronix, Inc. | x | x |