

6 April 2023 Ad hoc Electronic Teleconference Meeting

Approved Meeting Minutes, Prepared by Kent Lusted and John D'Ambrosia

Meeting called to order at ~6:30 am (all times Pacific) by Kent Lusted, who was chairing the meeting.

Chair noted that individuals should fill out IMAT information for attendance.

Presentation #1	Agenda
Presenter	Kent Lusted
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/agenda_3dj_01_adhoc_230406.pdf

Questions were asked and answered.

The chair asked if there were any modifications for the agenda (See slide #2) – there were none.

There were no objections to the approval of the agenda, and it was considered approved by unanimous consent.

The chair noted an email had been sent out to the reflector reminding individuals to review the following IEEE SA policies-

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

Chair asked if anyone needed any of these policies reviewed in-depth. There were no requests.

Chair presented the third slide (See Slide #24) 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 #29) 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 #33) 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.”

Task Force Chair John D'Ambrosia reminded participants of the IEEE Code of Ethics and Code of Conduct. (see slide #32)

The chair reviewed meeting decorum. See Slide #3.

The chair reviewed voting. See Slide #7.

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

Presentation #2	State of IEEE P802.3dj and Future Schedule
Presenter	John D'Ambrosia
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/dambrosia_3dj_elec_230406.pdf

Questions were asked and answered.

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

Chair noted that the contributions from Nathan Tracy, Jim Weaver, and Rich Mellitz were provided for the March 2023 plenary but not shown there due to meeting schedule constraints. Chair noted that the contributed channels were posted to the Task Force Tools and Channels web page. (see: <https://www.ieee802.org/3/df/public/tools/index.html>)

Presentation #3	Supporting Channel Analysis for a Backplane Objective
Presenter	Nathan Tracy
URL	https://www.ieee802.org/3/dj/public/23_03/tracy_3dj_01_2303.pdf

Author noted that the notation "KR 1", "KR 2" and "KR 3" are not intended to be nomenclature but references to three different channels.

Questions were asked and answered.

Presentation #4	212Gb/s Per Lane PAM4 KR Cabled Backplane Channels
Presenter	Jim Weaver
URL	https://www.ieee802.org/3/dj/public/23_03/weaver_3dj_01_2303.pdf

Questions were asked and answered.

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

Presentation #5	200 Gb/s PAM4 Channel Sweep Designs for "Near Package Connector (NPC) KR Cabled Backplane" and "C2C with 1 Connector" Topologies
Presenter	Rich Mellitz
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/mellitz_3dj_elec_01a_230406.pdf

Author noted an error on slide 9 where 'TP6' should be 'TP5' and would provide a correction in version '01a'.

Questions were asked and answered.

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

Presentation #6	BER considerations for 200 Gb/s per lane AUIs
Presenter	Matt Brown
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/brown_3dj_elec_01a_230406.pdf

Author noted an error on slide 16 and would provide an updated version '01a'. There was a request to add another stack to slides 12 and 14 with a retimed host and module using an extender sublayer on the host. Author agreed to add in version '01a'.

Questions were asked and answered.

Ad hoc chair asked participants to review the contribution from Matt Brown and come prepared for straw polls at the next electrical ad hoc meeting on the AUI BER topic.

Ad hoc chair noted that the last presentation was time permitting and that there was sufficient time remaining for the last presentation. He offered the remaining meeting time to Bill Kirkland.

Presentation #7	COM MLSE and DFE Simulation and the Hunt for 0.5 dB
Presenter	Bill Kirkland
URL	https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/kirkland_3dj_elec_01_230406.pdf

Ad hoc Chair noted a supporting zip file with the m files was posted to the website as well. (see: https://www.ieee802.org/3/dj/public/adhoc/electrical/23_0406/kirkland_3dj_elec_01_230406.zip)

Questions were asked and answered.

During the Q&A of presentation #7, ad hoc chair asked if there was opposition to the meeting running no more than 10 minutes past the announced end time. No one responded.

Ad hoc chair reviewed future meetings and reminded participants of the future electrical ad hoc meetings and joint optical/logic ad hoc meetings.

Meeting adjourned at ~9:41 a.m. Pacific.

Attendees (per IMAT)

Name	Employer	Affiliation
Bois, Karl	NVIDIA Corporation	NVIDIA Corporation
Brown, Matthew	Huawei Technologies Canada	Huawei Technologies Canada
Calvin, John	Keysight Technologies	Keysight Technologies
Cassan, Dave	Alphawave	Alphawave
Chappell, Neveia	Keysight Technologies	Keysight Technologies
Chen, Chan	Self Employed	Self Employed
D'Ambrosia, John	Futurewei Technologies, U.S. Subsidiary of Huawei	Futurewei Technologies, U.S. Subsidiary of Huawei
Dawe, Piers J G	NVIDIA	Nvidia
Del Vecchio, Peter		Broadcom Corporation
Diminico, Christopher	M C Communications, LLC	Panduit Corp.
Dudek, Michael	Marvell	Marvell
Erven, Chad	Semtech Ltd	Semtech Ltd
Ghiasi, Ali	Ghiasi Quantum LLC	Ghiasi Quantum LLC; Marvell Semiconductor, Inc.
Gore, Brandon	Samtec, Inc.	Samtec, Inc.
Gustlin, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.

Name	Employer	Affiliation
He, Xiang	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Healey, Adam	Broadcom Inc.	Broadcom Inc.
Heck, Howard	Intel	Intel
Hidaka, Yasuo	Credo Semiconductor	Credo Semiconductor
Huang, Howard		Synopsys, Inc.
Huang, Kechao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Hutchins, Jeff	Ranovus	Ranovus
Issenhuth, Tom	Issenhuth Consulting, LLC	Huawei Technologies Co., Ltd
Jiang, Chendi	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Jiang, Chenhui		Sicoya GmbH
Kareti, Upen	Cisco Systems, Inc.	Cisco Systems, Inc.
Kim, Kihong/Joshua	Hirose Electric (USA), Inc.	Hirose Electric (USA), Inc.
Kimber, Eric	Semtech Ltd	Semtech Ltd
Klempa, Michael	Alphawave Semi	Alphawave IP
Kocsis, Sam	Amphenol Corporation	Amphenol Corporation
Krishnasamy, Kumaran	Broadcom Corporation	Broadcom Corporation
Li, Mike-Peng	Intel	Intel
Li, Pei-Rong	MediaTek Inc.	MediaTek Inc.

Name	Employer	Affiliation
Liu, Cathy	Broadcom Corporation	Broadcom Corporation
Liu, Karen	Nubis Communications	Nubis Communications
Lusted, Kent	Intel	Intel
Maki, Jeffery	Juniper Networks, Inc.	Juniper Networks, Inc.
Malicoat, David	Malicoat Networking Solutions	Malicoat Networking Solutions; SENKO Advanced Components
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
Moorwood, Charles	Keysight Technologies	Keysight Technologies
Mu, Jianwei		Hisense
Muller, Shimon	Enfabrica Corp.	Enfabrica
MURAKAMI, YUKI		Fujitsu Limited
Nering, Raymond	Cisco Systems, Inc.	Cisco Systems, Inc.
Noujeim, Leesa	Google	Google
Nowell, Mark	Cisco Systems, Inc.	Cisco Systems, Inc.
Ofelt, David	Juniper Networks, Inc.	Juniper Networks, Inc.
Opsasnick, Eugene	Broadcom Inc.	Broadcom Inc.
PARK, CHUL SOO	Juniper Networks Inc.	Juniper Networks, Inc.

Name	Employer	Affiliation
Piebler, David	Dell Technologies	Dell
Rabinovich, Rick	Keysight Technologies	Keysight Technologies
Ran, Adee	Cisco Systems, Inc.	Cisco Systems, Inc.
Ren, Hao	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Rodes, Roberto	II-VI	II-VI
Sakai, Toshiaki	Socionext Inc.	socionext
Shanbhag, Megha	Tyco	TE Connectivity
Shoval, Ayal	Synopsys, Inc.	Synopsys, Inc.
Shukla, Priyank	Synopsys, Inc.	Synopsys, Inc.
Sikkink, Mark	Hewlett Packard Enterprise	Hewlett Packard Enterprise
Simms, William	NVIDIA Corporation	NVIDIA Corporation
Sinn, Peter		Alphawave IP
Sommers, Scott	Molex LLC	Molex Incorporated
Son, Yung Sung	Optomind Inc	Optomind Inc
Tracy, Nathan	TE Connectivity	TE Connectivity
Ulrichs, Ed	Intel	Intel
Weaver, James	Arista Networks	Arista Networks
Wingrove, Michael	Ciena Corporation	Ciena Corporation

Name	Employer	Affiliation
Wong, Henry		Alphawave Semi
Wu, Mau-Lin	MediaTek Inc.	MediaTek Inc.
Yin, Shuang		Google
Zhiwei, Yang	ZTE Corporation	ZTE Corporation
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd