Unconfirmed Meeting Minutes: IEEE P802.3dm Asymmetrical Electrical Automotive Ethernet Task Force

May 16, 2024
Interim Meeting

Prepared by George Zimmerman

IEEE P802.3 Task Force meeting convened at 8:00 AM EDT, Thursday, May 16, 2024, by David Law, IEEE 802.3 Ethernet Working Group Chair.

Attendance is listed in Appendix A

ADMINISTRATIVE MATTERS

Mr. Law explained that the Working Group chair appoints the Task Force Chair, and the Task Force would confirm the appointment. Mr. Law then reminded the group that he had announced his intention to appoint Jon Lewis as Chair at the March 2024 802.3 Closing Plenary, and he then appointed Jon Lewis IEEE P802.3dm Task Force Chair.

Mr. Law appointed George Zimmerman as recording secretary for this session.

Mr. Law reminded the group that the meeting was being conducted under teleconference rules, and that only 802.3 voters were eligible to vote on motions.

Motion #1: Confirm Jon Lewis as the IEEE P802.3dm Asymmetrical Electrical Automotive Ethernet Task Force Chair.
M: Geoff Thompson S: James Withey
MOTION PASSES WITHOUT OBJECTION

M. Law turned the meeting over to Task Force Chair Jon Lewis. (8:09 AM)

Presentation: agenda_3dm_01_20240516.pdf
Presenter: Jon Lewis, Chair.

Mr. Lewis turned to presentation agenda_3dm_01_20240516.pdf and reviewed the agenda for the meeting.

The chair reminded the group that attendance credit would be taken from IMAT, and that as announced by the 802.3 Working Group Chair, IMAT registration would be for individual slots (AM1, AM2, PM1, and PM2) through the day's meeting.

Approval of Agenda: The chair asked whether there were additions or corrections to the agenda, and there were none. He announced that the agenda was approved.

Approval of (Study Group) Minutes: The chair announced that the minutes from the final study group meeting on 13 March had been posted, and asked whether there were any additions or corrections to them. There were none. He announced that the study group minutes were approved.

The Chair then resumed the review of presentation agenda_3dm_01_20240516.pdf :

- Mr. Lewis noted that there should be no recording or photography without permission.
- Mr. Lewis asked if anyone was attending from the press including those who would run a public blog on this meeting – there were no indications from the group,

Mr. Lewis then continued review of the presentation, reviewing decorum, information for the reflector, private area, and ground rules.

The Chair announced that as this meeting was an electronic Task Force meeting, under 802.3 rules, only working group voters may vote.

Attendance, the Chair advised the group that attendance would be taken from IMAT, and that zoom attendance would be used to reconcile the attendance, but IMAT was the official record. He then reminded attendees that they should show their employer & affiliation, and how to set these to make them correct.

Mr. Lewis continued review of the IEEE SA structure, where to find the rules,

IEEE SA Patent Policy, Mr. Lewis reviewed slides 0 through 4 of the IEEE SA Patent Policy (slides 13-17 of the agenda deck) and read aloud slides 1 through 4 of patent policy for Task Forces from agenda_3dm_01_20240516.pdf, and made the call for patents on the slide labeled "Ways to Inform IEEE" (8:33 am).

There was no response to the call for patents at 8:33am.

Other IEEE Policies
Mr. Lewis read aloud the slides on the IEEE SA copyright, Participant behavior (ethics), IEEE individual participation, and fair and equitable consideration policies as shown in the agenda deck. (8:41AM). There were no questions.

Mr. Lewis reviewed the standards development process for IEEE and where this Task Force is in the process.

LIAISONS

The Chair moved to liaisons and noted that there were no liaisons for the Task Force at this time.

Project Documentation and Timeline

Mr. Lewis reviewed where the project documentation could be found, and that the project currently had not produced a timeline. He announced that it was his plan to reserve some time at the July meeting to prepare a timeline.

The Chair completed a review of the presentation.

At this time, the chair gave the IMAT code and asked everyone to sign into IMAT. He asked repeatedly whether anyone had problems signing into IMAT, and there were no responses.

PRESENTATIONS

The Chair then moved to the presentations for the meeting.

Title: Some considerations for optimizing the asymmetric camera link
URL: https://www.ieee802.org/3/dm/public/0524/jonsson_etal_3dm_01_05_16_24.pdf
Presenter: Ragnar Jonsson (Marvell), Alireza Razavi (Marvell), Paul Fuller (Marvell), TJ Houck (Marvell).
Discussion: The presenter reviewed his views on various important parameters for success of the 802.3dm project, including several questions. He indicated that he and his co-authors planned future presentations on these issues, and invited collaborators.
Questions were asked and answered.

Title: Coaxial Cables Performance
URL:https://www.ieee802.org/3/dm/public/0524/Coax_Cables_Silvano_de_Sousa_ISAAC_Interim_may_2024(002).pdf
Presenter: Jonathan Silvano de Sousa (Gebauer & Griller Kabelwerke Gesellschaft m.b)
Discussion: The presenter presented data on various coaxial cables for automotive use which might be relevant to the 802.3dm project.
Questions were asked and answered.

The chair announced that the meeting would recess for the morning break (10:11am).
The meeting resumed at 10:28am EDT.

The (task force) chair noted a participant had expressed concerns with the next presentation. He asked the concerned participant to elaborate. He indicated that he was concerned that presenting 'specific parameters' would "set a bad precedent" resulting in a back-and-forth presentations with parameters of competing implementations.
The working group chair responded that he had reviewed the presentation and saw a set of measurements, but no identification of the product itself, and elaborated that in general, measurements were desirable inputs to the project.
Other participants voiced opinions on both sides.
After listening to the discussion, the chair ruled that the presentation could be heard in its entirety.

Title: Evaluation of 802.3ch for automotive sensor PHY

URL:https://www.ieee802.org/3/dm/public/0524/Evaluation%20of%20802.3ch_Tran_050142024a.pdf
Presenter: Ky-Anh Tran (Aeonsemi)
Discussion: The presenter reviewed measurements of power and start up time on an IEEE 802.3ch (clause 149) PHY, relative to the 802.3dm objectives.
Questions were asked and answered.

Title: Relative Cost Analysis of 802.3ch for Asymmetric Sensor PHY
URL:https://www.ieee802.org/3/dm/public/0524/Relative%20Cost%20Analysis%20of%20802.3ch%20as%20Asymmetric%20PHY_Huang_05122024.pdf
Presenter: Yunteng Huang (Aeonsemi)
Discussion: The presenter discussed the relative cost of an asymmetric camera phy based on the IEEE 802.3ch specification.
Questions were asked and answered.

Following the discussion, the chair asked whether any individual online or in the room had problems logging in to IMAT. None responded.

He then announced that the Task Force was breaking for lunch at 12:09 PM EDT, with a 1:15PM EDT start for the afternoon session.
The meeting resumed at 1:17PM EDT.

Title: PHY Block Complexity
URL: https://www.ieee802.org/3/dm/public/0524/sedarat_3dm_01_202405.pdf
Presenter: Hossein Sedarat (Ethernovia)
Discussion: The presenter presented an overview of the important sources of noise and interference, fundamental PMA blocks in a transceiver, and the relation of block complexity to symbol rate.
Questions were asked and answered.

Title: Complexity Comparison for Asymmetric PHYs
URL: https://www.ieee802.org/3/dm/public/0524/sedarat_3dm_02_202405.pdf
Presenter: Hossein Sedarat (Ethernovia)
Discussion: The presenter discussed a number of asymmetric transmission schemes and presented an overview of the tradeoffs.
Questions were asked and answered.

Title: Coaxial Unbalanced Media for Automotive Applications
URL: https://www.ieee802.org/3/dm/public/0524/03May24_802.3dm_Cliber.pdf
Presenter: David Cliber (TE Connectivity), Bert Bergner (TE Connectivity)
Discussion: The presenter discussed possible link segment topologies, cable types, including measurements, connectors and constructions relevant to 802.3dm applications, and proposed certain link segment topologies.
Questions were asked and answered.

The Task Force recessed for break at 3:18PM, and resumed at 3:35PM EDT.

Title: Use of Auto-Negotiation to synchronize start of training for asymmetric PHYs
URL: https://www.ieee802.org/3/dm/public/0524/Lo_01_0524.pdf
Presenter: William Lo (Axonne)

Discussion: The presenter discussed the basics of link synchronization and auto-negotiation in single-pair systems, discussed relative capabilities and robustness. He then posed the question of whether we wanted to make auto-negotiation mandatory for asymmetric links.

Questions were asked and answered. During discussion, the chair clarified that the task force was not limited to taking only functionality from 802.3ch (clause 149).

Title: 4-Port MATEX-AX PCB : Near End Receiver Crosstalk Measurement Results
URL: https://www.ieee802.org/3/dm/public/0524/felso_3dm_01_2405.pdf
Presenter: Akos Felso (Microchip)
Discussion: The presenter presented crosstalk results for MATE-AX PCB as a reference for measuring connectors.
Questions were asked and answered.

Title: Automotive Noise Consideration for IEEE 802.3dm
URL: https://www.ieee802.org/3/dm/public/0524/Chini_Tazebay_3dm_01a_0524.pdf
Presenter: Ahmad Chini (Broadcom), Mehmet Tazebay (Broadcom)
Discussion: The presenter discussed basics and issues in automotive EMC testing.
Questions were asked and answered.

Presentations completed at 4:53PM EDT.

FUTURE MEETINGS

Mr. Lewis reviewed future meetings from the agenda presentation and announced the next meeting between July 15-19 at the July 2024 802 plenary in-person with remote access, from Montreal Quebec, Canada. He reminded the group there was registration required and early registration ended May 17.

The chair indicated that he would likely be chartering one or more ad hocs on specific items to progress the work, and asked volunteers to contact him. He requested that Task Force participants progress the work on the reflector prior to the July meeting.

The Chair indicated that the agenda had been exhausted and asked the group if there was other business, none responded.

Mr. Lewis adjourned the meeting at 5:08 PM EDT.

Appendix A: Attendees at the IEEE P802.3dm Asymmetrical Electrical Automotive Ethernet Task Force Meeting, May 16, 2024

Name	Employer	Affiliation
Baggett, Tim	Microchip Technology, Inc.	Microchip Technology, Inc.
Bar-Niv, Amir	Aquantia Corp	Marvell
Benyamin, Saied	Ethernovia	Ethernovia
Borda, jamila josip	BMW Group	in-tech GmbH
Boyer, Rich	Aptiv - Signal and Power Solutions	Aptiv Signal and Power Solutions
Brychta, Michal	Analog Devices Inc.	Analog Devices Inc.
Chini, Ahmad	Broadcom Corporation	Broadcom Corporation
Cliber, David		TE Connectivity
Cordaro, Jay		Analog Devices Inc.
Dalmia, Kamal	Aviva Links Inc	Aviva Links Inc
Diminico, Christopher	M C Communications, LLC	Panduit Corp.
Estrakh, Daniel	Valens Semiconductor	Valens Semiconductor
Felso, Akos		Microchip Technology, Inc.
Feyh, German	Broadcom Corporation	Broadcom Corporation
Fritsche, Matthias	HARTING Technologie Gruppe	HARTING Electronics GmbH
Fuller, Paul		Marvell
Gauthier, Claude	NXP Semiconductors	NXP Semiconductors
Gerl, Markus	MD Elektronik	MD Elektronik
Goel, Sachin	Aviva Links Inc	Aviva Links Inc
Gorshe, Steven Scott	Microchip Technology, Inc.	Microchip Technology, Inc.
Hogenmueller, Thomas	Robert Bosch GmbH	Robert Bosch GmbH
Hu, Mark		Aptiv
Huang, Yunteng	Aeonsemi	Aeonsemi
HYAKUTAKE, YASUHIRO	Orbray Co., Ltd.	Orbray Co., Ltd.
Jones, Chad	Cisco Systems, Inc.	Cisco Systems, Inc.
Jones, Peter	Cisco Systems, Inc.	Cisco Systems, Inc.
Jonsson, Ragnar	Marvell Semiconductor, Inc.	Marvell
Kapoor, Samay		Aviva Links Inc.
Kikuta, Tomohiro	Orbray Co., Ltd.	Orbray Co., Ltd.
Lackner, Hans	QoSCom GmbH	QoSCom GmbH
Lasry, Ariel	Qualcomm Technologies, Inc	Qualcomm Technologies, Inc
Law, David	Hewlett Packard Enterprise	Hewlett Packard Enterprise
Lewis, Jon	Dell Technologies	Dell Technologies
Lo, William	Axonne Inc.	Axonne Inc.
Lou, Wei		Broadcom Corporation
mash, chris	Nupero Ltd	Ethernovia Inc
Matheus, Kirsten	BMW Group	BMW Group

Mcclellan, Brett	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Mellitz, Richard	Samtec, Inc.	Samtec, Inc.
Murray, Brian	Analog Devices Inc.	Analog Devices
Neulinger, Christian	MD Elektronik	MD Elektronik
Ng, Hiok Tiaq	Aviva Links Inc.	Aviva Links Inc
Nicholl, Gary	Cisco Systems, Inc.	Cisco Systems, Inc.
Pal, Debajyoti		ON Semiconductor
Parkholm, Ulf	Telefon AB LM Ericsson	Telefon AB LM Ericsson
Parthasarathy, Vasu	Broadcom Corporation	Broadcom Corporation
Pineda, Luis		LP Tech Advisors, LLC
Pischl, Neven	Broadcom Corporation	Broadcom Corporation
Razavi, Alireza	Marvell	Marvell
Regev, Alon	Keysight Technologies	Keysight Technologies
Ringel, Haim	General Motors Company	General Motors Company
Schreiner, Stephan	Rosenberger Hochfrequenztechnik GmbH & Co. KG	Rosenberger
Sedarat, Hossein	Ethernovia	Ethernovia
Sharma, Rohit		Molex Incorporated
shirani, ramin	Ethernovia	Ethernovia
Strohmeier, Heiko	Robert Bosch GmbH	Robert Bosch GmbH
Sun, jingcong		Motorcomm Electronic Technology Co
Tan, Yuxuan	Motorcomm	Motorcomm
TAZEBAY, MEHMET	Broadcom Corporation	Broadcom Corporation
Thompson, Geoffrey	GraCaSI S.A.	INDEPENDENT
Torres, Luisma	Knowledge Development for Plastic Optical Fiber	Knowledge Development for Plastic Optical Fiber
Tran, Ky-Anh	Aeonsemi Inc	Aeonsemi Inc
Turner, Max	Ethernovia	Ethernovia
Vanderlaan, Paul	UL LLC	UL Solutions
Veloso Cauce, Gumersindo	BMW Group	BMW AG; BMW Group
Voss, Robert	Panduit Corp.	Panduit Corp.
Wang, Shun-Sheng	Realtek Semiconductor Corp.	Realtek Semiconductor Corp.
Watanabe, Yuji	AGC Inc.	AGC
Wingrove, Michael	Ciena Corporation	Ciena Corporation
Withey, James	Fluke Corporation	Fluke Corporation
Wu, Peter	Marvell Semiconductor, Inc.	Marvell Semiconductor, Inc.
Yu, Rang-Chen	Innolight Technology Corproation	Innolight Technology Corproation
Zerna, Conrad	Aviva Links Inc	Aviva Links Inc
Zhuang, Yan	Huawei Technologies Co., Ltd	Huawei Technologies Co., Ltd
Zimmerman, George	CME Consulting, Inc.	CME Consulting/ADI, APL Group, Cisco, Marvell, OnSemi, SenTekSe LLC, Sony