Meeting Minutes: Meeting of the IEEE P802.3da SPMD Task Force

15 November 2022
IEEE 802 Plenary meeting, Bangkok, Thailand
Prepared by George Zimmerman

IEEE P802.3da SPMD Task Force meeting was convened at **08:04AM ICT**, 15 November 2022 by the chair, Chad Jones.

The meeting was held as a hybrid meeting, both in person and electronically via WebEx.

Attendance is listed in Appendix A

All presentations referenced in these minutes are located on the Task Force Meeting Materials site under the public page for this meeting.

George Zimmerman was appointed as recording secretary for the meeting.

The chair asked the participants in the room to introduce themselves, and they did. He then added that those on the teleconference meeting introduce themselves when speaking, in lieu of a formal roll call. There was no objection.

The Chair announced that he had received 6 presentations for the meeting, including one late presentation. He suggested that the content of the late presentation might fit before another in the agenda and asked if there was any objection to hearing the presentation ahead of another. There was no objection.

The Chair displayed and proceeded to review the agenda in agenda link

The agenda was approved at **08:09AM ICT** by unanimous consent.

The minutes from the previous meeting had just been posted, so no minutes were offered for approval at this meeting.

Members of the Press, at **08:10AM ICT** the chair asked for any press members to identify themselves. None heard.

At **08:10AM ICT**, The Chair resumed review of the agenda deck.

The following items were reviewed in the agenda deck:
Attendance, The Chair advised the group that the attendance would be taken from Webex, IMAT, and the in room sign-in sheet.

IEEE Patent Policy, The Chair read aloud the patent slides at **08:13AM ICT**.
The call for patents was made and **none** responded.

The slides on SA Copyright Policy as well as the Individual Participant Behavior slides were shown and presented at 0**8:15AM ICT**.

The slide outlining the IEEE-SA policy on dominance was presented at **08:19AM ICT**.
Presentations and Discussion:
At 0**8:20AM ICT** the Chair moved on to the presentations.

Presentation: 802.3da MDI Connector
(Presented by Stephan Schreiner, Rosenberger)
- https://www.ieee802.org/3/da/public/1122/schreiner_3da_15_11_22.pdf
- Presenter presented presentation
- There was discussion about whether to delete the objective requesting a single MDI connector. There were a number of participants in favor of deleting the objective, and no participants in favor of retaining it. At least one participant suggested delaying the decision until a later time.
- Participants noted that connector examples could be given, or even places to recommend.
- Several participants noted that the 802.3da Task Force wasn't the right place to pick a single connector because the connector choice required domain and application knowledge specific to the environments and uses.
- There was also discussion that the use of the 63171 connector family would mean that "in-and-out" connectors (two modular cords into each device) would require two connectors, and there were none in the group who considered a dual connector.
- There was discussion that we needed to specify the electrical parameters, and some concern over the complexity of those specifications, but general agreement that the mechanical characteristics would be beyond our scope.

Presentation: Consideration on multidrop powering over data-pair and non-data-pair
(Presented by Yan Zhuang, Huawei)
- https://www.ieee802.org/3/da/public/1122/zhuang_01a_da_111522.pdf
- Presenter presented presentation
- There was good discussion from the group about the management of power on the secondary pair using the data pair, and the discussion showed general appreciation for the issues raised in the contribution, including power management, fault protection, interaction with PLCA, and the complexities of providing power on a second pair. There was also concern that the ultimate specification might be beyond the current group scope, but that we weren't at the point of making such a decision yet. The TF Chair is to consult with the WG chair on the question of scope.

Presentation: SPE Multidrop Enhancements Mixing Segment Considerations with RX Model
(Presented by Chris Diminico, PHY SI/MC Communications/SenTekSe)

- https://www.ieee802.org/3/da/public/1122/diminico_SPMD_01_1122.pdf
  Presenter presented presentation
- Questions asked and answered. The presenter clarified that on the 'summary slide', the CWA column was the maximum peak-to-peak amplitude of a CW tolerated, and the correlations were the correlations observed in those scenarios.

THE GROUP RECESSED FOR MORNING BREAK AT 10:07AM
The meeting resumed at 10:31AM with presentations

Presentation: EMC noise margin (late presentation noted earlier in minutes)
(Presented by Piergiorgio Beruto, OnSemi)

- https://www.ieee802.org/3/da/public/1122/beruto_3da_20221114_emc_noise_margin.pdf
- Presenter presented presentation
- There was a great deal of discussion about how to qualify mixing segments, and what changes to the specification might be considered to improve the noise immunity of the 802.3da PHYs when exposed to conducted immunity testing. The discussion focused on: (a) improving the lower-bound PSD mask, (b) improving the mode conversion or interference rejection of the mixing segment itself, and (c) raising the transmit PSD to provide any additional rejection needed.
- In addition, there was general consensus to keep an eye out for potential installation issues, and there was disagreement as to whether to specify the mixing segment based on topological constraints (node count, spacing, stub length and mixing segment length) vs. trying to find a measurement metric, perhaps based on the receiver modeling done to date. Regardless, most agreed that further work is needed to come with constraints to better specify the mixing segments, and the consensus models developed to date would provide a path.

The Chair announced that the next presentation would be given before lunch with any necessary clarifications needed, and that discussion on the next 2 presentations would be joined and would follow the subsequent presentation after the lunch break.

Presentation: 802.3da Power Decision Tree
(Presented by Heath Stewart, Analog Devices)

- https://www.ieee802.org/3/da/public/1122/stewart_da_1122_v002.pdf
- Presenter presented presentation

GROUP BROKE FOR LUNCH AT 12:03PM
The meeting resumed at 1:30PM
The Chair reminded the group to log attendance via IMAT and via a sign in sheet in the room. At that point, presentations resumed.

Presentation: Power System Parameter Examples

(Presented by Michael Paul, Analog Devices)
- https://www.ieee802.org/3/da/public/1122/Paul_da_11152022_v2.pdf
- Presenter presented presentation

Discussion began on the presentation that suggested reuse of existing category cabling (not necessarily installed). Further discussion centered on the connector resistance, and on tradeoffs of gauge, number of nodes and length. The presenters advocated dedicated power on a control plane.

Presentations and discussion concluded at 3:11PM

THE GROUP RECESSED FOR AFTERNOON BREAK AT 3:11PM
The meeting resumed at 3:30PM

The Chair displayed the liaison letter assigned to the TF, found here: https://ieee802.org/3/minutes/nov22/incoming/3N1329_INF_Liaison-to-IEEE802d3-on-multi-drop-cabling_Redacted.pdf. Group members suggested a meeting with the assumed author of the document to ensure the concerns presented were understood. A small group was directed to have a meeting with the assumed author and report back to the TF. While it's not stated in the liaison, the TF believes the letter is talking about EQ 147-5, which has an upper bound of 200MHz. Digging through the 802.3cg history shows this number dates back to D1.0. Based on this, the small group was told to stand down and The Chair will send an email to the assumed author, inviting him to make a technical contribution about why this 200MHz number could be lower and what the new number would be.

The Chair talked about the timeline and pointed out that we have already slipped on the timeline that we just approved in July 2022. The Chair will reserve working up a new timeline until it becomes clearer when we can expect D1.0.

The Chair displayed the work items slide, stated that he needed to update it with the presentations from this week and repost to the website.

Discussion of future meetings

- The next meeting is 7 Dec 2022. This is the only meeting before the meeting(s) that will occur during the January Interim the week of 16 Jan 2023.
- Presentation requests to the Chair no later than Friday morning Pacific Time (Thursday 1 Dec AoE) prior to the meeting
  - Actual presentation is due on the Monday 5 Dec AoE prior to the meeting (latest)

The chair called for any other topics to discuss, none heard.

Having exhausted the agenda, the meeting was adjourned by The Chair at 3:48PM ICT.

Appendix A: IEEE P802.3da SPMD Task Force

Name	Affiliation	Present
Alon Regev	Keysight Technologies	I
Andy Jimenez	Anixter Inc.	I, W
Anthony New	Prysmian Cables & Systems	I, W
Bernd Horrmeyer	Phoenix Contact	W
Bob Voss	Panduit Corp.	I, W
Chad Jones	Cisco Systems, Inc.	I, W
Clark Carty	Cisco Systems, Inc.	I, W
Craig Chabot	University of New Hampshire InterOperability Laboratory (UNH-IOL)	I, W
Dave Hess	Cord Data / Cord Data	W
David D. Brandt	Rockwell Automation	I, W
Dayin Xu	Rockwell Automation	I, W
Felix Fellhauer	Robert Bosch GmbH	I, W
Geoff Thompson	GraCaSI S.A.	I, W
George Zimmerman	CME Consulting/APL Group, Cisco, CommScope, Marvell, OnSemi, SenTekSe LLC	I, W
Hans Lackner	QoSCom - Quality in Communications - GmbH	I, W
Heath Stewart	Analog Devices Inc.	I, W
James Withey	Fluke Corporation	I, W
Jason Potterf	Cisco Systems, Inc.	I, W
Jason Sisk	University of New Hampshire InterOperability Laboratory (UNH-IOL)	I, W
Jon Lewis	Dell Technologies	I, W
Kent Lennartsson	Kvaser AB	I
Kiyoshi Saito	FURUKAWA ELECTRIC	I, W
Martin Gubow	Keysight Technologies	I
Masayuki Hoshino	Continental Automotive	I
Matthias Fritsche	HARTING Electronics GmbH	I, W
Mehmet Tazebay	Broadcom Corporation	I, W
Michael Paul	Analog Devices	I, W
Michal Brychta	Analog Devices Inc.	I, W
Natalie Wienckowski		W
Nathan Tracy		W
Peter Fischer	BKS Kabel-Service AG	I, W
Piergiorgio Beruto	onsemi	I, W
rich boyer	Aptiv Signal and Power Solutions	I, W

Name	Affiliation	Present
Sami Akin	Volkswagen Ag	I, W
Simon Mark	Wurth Electronik Group	I, W
Steffen Graber	Pepperl+Fuchs SE	I, W
Stephan Schreiner	Rosenberger	I, W
Steve Carlson	HSD, Robert Bosch GmbH, Ethernovia	I, W
Theodore Brillhart	Fluke Corporation	W
Tim Baggett	Microchip Technology, Inc.	I, W
Tingting Zhang	Huawei Technologies Co., Ltd	I, W
Tong Mu	Huawei Technologies Co., Ltd	I, W
Toshihisa Hyakudai	Sony Corporation	I, W
Wayne Larsen	CommScope	I, W
Yan Zhuang	Huawei Technologies Co., Ltd	I, W

IEEE P8023dg Task Force Attendance

Initial to indicate attendance

Name	Employer	Affiliation	11/15			
Chad Jones	Cisco	Cisco	CMJ			
Michael Paul	Analog Devices	Analog Devices	MP			
Stephan Schreiner	Rosenberger	Rosenberger	St.S.			
Yan Zhuang	Huawei	Huawei	ZY			
Alon Regev	Keysight	Keysight	AR			
Martin Gubow	Keysight	Keysight	MH			
Andrew Jimenez	Wesco	Wesco	aJ			
Masayuki Hochino	Continental Automotive	Continental Automotive	MH			
James Withey	Fluke	Fluke	JW			
Felix Pehlhaun	Bosch	Bosch	JL			
Bernd Horrmeyer	Phoenix Contact	Phoenix Contact	M			
Berito Piergiorgio	onsemi	onsemi	MM			
Clark Carty	Cisco	Cisco	CAC			
George Zimmerman	CME Consulting	APL Group, Cisco, Commscope, Marvel, Onsemi	GZ			
Heath Stewart	Analog Devices	Analog Devices	HS			
Theo Brillhart	Fluke Corp	Fluke Corp	B.			
Kent Lennartsson	Kvaser AB	Kvaser AB	KL			
Kirsten Matheus	BMW	BMW	KM			