

Unconfirmed Meeting Minutes: Meeting of the IEEE P802.3dg 100 Mb/s Long-Reach
Single Pair Ethernet Task Force

Wednesday May 17, 2023
Hybrid Interim Meeting
(r1-6/16/2023)

Prepared by Bob Voss

IEEE 802.3dg 100 Mb/s Long-Reach Single Pair Ethernet Task Force meeting was called to order at **8:06 AM CDT**, Wednesday, May 17, 2023, by George Zimmerman, Chair of the IEEE 802.3dg Task Force.

The meeting was held in hybrid format, electronically via WebEx, as well as in-person in San Antonio, TX. In-person attendees introduced

Attendance is listed in Appendix A

Any presentations referenced in these minutes are located on the [Task Force Meeting Materials](#) site.

Bob Voss served as recording secretary for the meeting. Mr. Voss has agreed to serve as recording secretary on a permanent basis.

This being a teleconference meeting asked that participants whose affiliation is not shown in their Webex post their affiliation in the chat window. No objection heard.

Mr. Zimmerman displayed and proceeded to review the agenda at https://www.ieee802.org/3/dg/public/May_2022/agenda_3dg_01a_230517.pdf

Motion #1: Approve agenda, as displayed.

M = P. Vanderlaan

S = P. Jones

The agenda was approved at **8:11 AM CDT** by unanimous consent.

The Chair asked if there is any objection to approving the prior meeting minutes from the March 29, 2023, as posted. The Chair also asked if anyone wished to review the meeting minutes now. None heard. Minutes were approved by unanimous consent.

Motion #2: Approve minutes of 29Mar2023 and corrected minutes of 15Mar2023, as posted.

M = B. Voss

S = P. Vanderlaan

The agenda was approved at **8:12AM CDT** by unanimous consent.

Members of the Press, At **8:13 AM CDT** the chair asked for any members of the press to identify themselves. None were heard.

At **8:15 AM CDT**, Mr. Zimmerman resumed review of the agenda deck, including the following items – reminder of meeting fee obligation, use of reflector and web to build consensus, ground rules, a review of the participation policy, a review of the IEEE copyright policy, a review of the IEEE policy on dominance, and a review of the IEEE Standards process. There were no questions.

At 8:20AM CDT, Attendance, Mr. Zimmerman advised the group that the attendance would be taken from Webex and IMAT. Mr. Zimmerman stressed the importance of updating IMAT during the meeting and led the group through recording attendance in IMAT. A sign-in sheet was also circulated among the in-person participants.

IEEE Patent Policy, Mr. Zimmerman showed the patent slides at **8:22 AM CDT**. The call for patents was made at **8:24 AM CDT**. None responded.

The slides on SA Copyright Policy as well as Code of Ethics and Conduct were shown and presented at **8:26 AM CDT**.

At **8:29 AM CDT**, the chair reminded participants that they agree to comply with IEEE Code of Ethics, all applicable laws and with all IEEE policies. Individual process, fair & equitable consideration, slides shown. Individuals not agreeing to comply were asked to leave the meeting. No meeting participants left.

At **8:35AM CDT**, Mr. Zimmerman reported that no liaisons or communications have been received for consideration by the task force at this meeting.

Presentations and Discussion:

At **8:37 AM CDT**, the Chair moved on to presentations, and reported that the task force received late presentations and asked if there was any objection to hearing these presentations in the order shown in the agenda deck. No objections heard.

At **8:39 AM CDT, EFT Pulse Measurements** – *Steffen Graber, Cornelius Herget, Felix Hoflich – Pepperl + Fuchs*

https://www.ieee802.org/3/dg/public/May_2022/graber_3dg_01_05172023.pdf

- Presentation made by Mr. Graber
- Questions asked and answered

At 9:18 AM CDT, Revisiting of Alien specifications and coupling attenuation for screened links (LATE) – Peter Fischer, BKS Kabel Service

- Presentation made by Mr. Fischer
- Questions asked and answered

https://iee802.org/3/dg/public/May_2022/Fischer_3dg_01a_05172023.pdf

Based on the discussion, Mr. Withey offered to put together a modified proposal over the break. The chair asked the group if there was any objection to hearing a presentation from Mr. Withey after the break. There was no objection.

Morning Refreshment Break 10:19AM CDT – 10:35AM CDT

At 10:36AM CDT, “Continuous N PSANEXT Correction” – James Whithey, Fluke Networks.

- Contribution presented by Mr. Withey
- Questions and discussion

https://www.iee802.org/3/dg/public/May_2022/withey_3dg_01_05172023.xlsx

At 10:55AM CDT, Link Segment Motions (rev. a) – Wayne Larsen, Commscope

https://www.iee802.org/3/dg/public/May_2022/Larsen_3dg_a_05_17_2023_LinkSegmentMotions.pdf

- Presentation made by Mr. Larsen

The chair asked Mr. Larsen regarding what order he wished to consider the various slides, observing that there were straw polls after several motions, as well as detailed motions following less detailed motions, and considering the straw polls and details first might save the group time. Mr. Larsen agreed to proceed with modified straw polls first to determine the course of action. (note – as Chair, Mr. Zimmerman did not participate in the straw polls)

- Mr. Larsen offered the following straw poll for unshielded cable.

___4___ I prefer 50-20log(f/10) for TCL with floor from 0.1 to 60 MHz.

___1___ I prefer 40-20log(f/10) for TCL with floor from 0.1 to 60 MHz.

___24___ Neither – not ready to decide.

Results shown are room count plus online poll through Webex collaboration tool.

- Mr. Larsen offered the following straw poll

I support putting ELTCTL requirements into the link segment.
(Note: that “cg” 10BASE-T1L does not have an ELTCTL requirement.)

Y = 2

N = 2

Need more information (e.g. field measurements, analysis) = 20

Motion #3 The dg link segment delay requirement shall be 3500ns
(note – this allows a 14AWG cable with maximum IL to be used.)

(Note: 10BASE-T1L used 8834 ns at 1589m, so this is 630m)

M = Wayne Larsen

S = Piergiorgio Beruto

Technical (>= 75%)

Y = 16

N = 0

A = 4

Motion passes

Motion #4 The dg link segment shall have a requirement for Dc resistance which shall be 10.7 ohms, or 21.4 ohms for the loop resistance.

Prior to making the motion, there was discussion that this specification would ordinarily be associated with the power delivery in clause 104, and it was unclear how it would fit into a specification.

M = Wayne Larsen

S =

Technical (>= 75%)

Y =

N =

A =

Motion dies for lack of a seconder.

LUNCH BREAK, 12:05PM CDT – 1:35PM CDT

At **1:41PM CDT**, Mr. Zimmerman resumed the meeting. Questions of clarification regarding motions/straw polls offered before the break were heard.

A straw poll from Mssrs. Graber/Fischer/Withey was offered at **1:47pm CDT**.

I would support a limit of (PSANEXT/PSAACR-F) of:

- PSANEXT: $50 + 5 \times N$ $0.1 < f < 10$ MHz
 $50 + 5 \times N - 15 \times \log_{10}(f/10)$ $10 < f < 60$ MHz
- PSAACR-F $50 + 5 \times N$ $0.1 < f < 10$ MHz
 - $36 + 5 \times N - 20 \times \log_{10}(f/10)$ $2 < f < 60$ MHz
- With N = 0 for $IL_{20} < 16$ dB
 - $0.5 \times (IL_{20} - 16)$ for $16 \leq IL_{20} \leq 21$ dB
 - 1 for $18 \leq IL_{20} \leq 21$ dB
 - $1 + 0.5 \times (IL_{20} - 21)$ for $21 \leq IL_{20} \leq 23$ dB
 - 2 for $23 \leq IL_{20}$ dB
- Responses
 - Y (ready today) = 7
 - Need more information = 10
 - N. (not supporting the revised equation) = 1

Based on the discussion, those indicating needing more information generally wanted time to investigate two issues – impact of the corner cases on PHY margins and potential implementations, and issues relating to how the new proposal compared to the installed base – including compatibility with 10BASE-T1L link segments.

The chair suggested that individuals wanting more information should be prepared to analyze and urged sharing results via the reflector or at an interim meeting prior to July.

At **2:03PM CDT**, the chair asked Mr. Fischer if he wished to proceed with his Motions deck today. Mr. Fischer indicated that he'd like to wait and offer them at a future meeting.

At **2:10AM CDT, IEEE 802.3dg –Need for a new MII? (LATE)**, *Piergiorgio Beruto, OnSemi*

https://ieee802.org/3/dg/public/May_2022/beruto_3dg_20230515_new_mii.pdf

- Presentation made by Mr. Beruto
- Questions asked and answered.

Presentations and Discussion concluded at 3:04 PM CDT.

Afternoon Break 3:05pm CDT – 3:30pm CDT

Mr. Zimmerman resumed the agenda at **3:32pm CDT**.

Timeline Discussion

- Performance against Adopted Timeline is slower than expected.
- Draft 2.0 target for July 2023 slipping to November, could go out to January or March 2024.
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- Mr. Zimmerman (as Chair) suggested an interim meeting prior to the July plenary to address this schedule shortfall. There was no objection. He proposed focus for the meeting, asking phy experts to consider presenting analysis either at the meeting or before (via the reflector) to aid in resolving the proposals made on the link segment at this meeting. Additionally, the Chair suggested that PHY experts would consider work to move forward on PHY baselines prior to July.
- Mr. Zimmerman will work with editors to pull together a document framework before July 2023 plenary.

Next Meetings

- The next task force meeting is an interim meeting, 20Jun2023, 7-9am PDT via Webex.
 - Interim meeting will be announced via the reflector.
 - Mr. Zimmerman pointed out that ad hoc meetings will be called when requests for presentation time are received.
 - Please give one week notice if you want to request an ad hoc
 - Wednesdays, 7am to 9am PDT

PLEASE NOTE THE PROCEDURES FOR PRESENTERS HAVE CHANGED – SEE

<https://www.ieee802.org/3/dg/public/presentproc.html>

- Presentation requests to the Chair no later ONE WEEK prior to the meeting
 - Presentation for posting is due on the FRIDAY (AoE) prior to the meeting (latest)
- Reminder: Register for the July 2023 Plenary–in-person with remote access
 - •See <https://www.ieee802.org/3/interims/index.html> and registration at: <https://web.cvent.com/event/c50eaa77-9484-4a50-9d20-378149a0ecb6/summary>
 - Note: Remote attendance provided on a best effort basis
- Follow on topics: PHY proposal (PCS, PMA, etc.)

Having exhausted the agenda, Mr. Zimmerman entertained a motion to adjourn the meeting at 3:55 pm CDT.

Motion to adjourn

M = B. Voss

S = J. Withey

Motion passes with unanimous consent

Appendix A: Attendees at IEEE P802.3dg 100 Mb/s Long-Reach

Single-Pair Ethernet Task Force (all are on IMAT)

May 17, 2023

Last Name	First Name	Affiliation	Webex	InPerson
Baggett	Tim	Microchip Technology, Inc.		X
Beauregard	Francois	Belden	X	
Beruto	Piergiorgio	onsemi	X	X
Brandt	David	Rockwell Automation	X	
Brychta	Michal	Analog Devices Inc.	X	
Carty	Clark	Cisco Systems, Inc.		X
Diminico	Christopher	Panduit Corp.		X
Dupuis	Marc	Winchester Interconnect	X	
Fellhauer	Felix	Robert Bosch GmbH		
Fischer	Peter	BKS Kabel-Service AG	X	
Graber	Steffen	Pepperl+Fuchs SE	X	
Haydt	Mary Sue	Microchip Technology, Inc.		X
Hozeska	Charles	Cernitin Solutions		
Huszak	Gergely	KONE	X	
Jones	Peter	Cisco Systems, Inc.	X	X
Jonsson	Ragnar	Marvell	X	X
Kadry	Haysam	Molex Incorporated	X	
Lackner	Hans	QoSCom GmbH	X	X
Larsen	Wayne	CommScope	X	
Lennartsson	Kent	Kvaser AB	X	
Lewis	Jon	Dell Technologies		X
Mark	Simon	Würth Elektronik Group	X	
Matheus	Kirsten	BMW Group		X
Mu	Tong	Huawei Technologies Co., Ltd	X	
Mueller	Harald	Endress + Hauser	X	
Murray	Brian	Analog Devices	X	
Potterf	Jason	Cisco Systems, Inc.	X	
Renteria	Victor	Bel Fuse	X	X
Schreiner	Stephan	Rosenberger	X	
sisk	jason	UNH-IOL	X	

TAZEBAY	MEHMET	Broadcom Corporation	X	
Tellas	Ronald	Belden	X	X
Thompson	Geoffrey	INDEPENDENT	X	X
Tremblay	David	Hewlett Packard Enterprise	X	
Vanderlaan	Paul	UL LLC	X	X
Voss	Robert	Panduit Corp.	X	X
Welch	Brian	Luxtera		
Withey	James	Fluke Corporation	X	X
Xu	Dayin	Rockwell Automation	X	
Zhang	Tingting	Huawei Technologies Co., Ltd	X	
Zhuang	Yan	Huawei Technologies Co., Ltd	X	X
Zimmerman	George	CME Consulting/APL Group, Cisco, CommScope, Marvell, OnSemi, SenTekSe LLC	X	X