

Unconfirmed Meeting Minutes: Meeting of the IEEE P802.3cg 10 Mbps Single Twisted Pair Ethernet Task Force

March 5-6, 2018  
Rosemont, IL USA

Prepared by Jon Lewis, Dell EMC and Craig Chabot, UNH-IOL

The meeting of the IEEE P802.3cg 10 Mbps Single Twisted Pair Ethernet Task Force convened at 1:00 PM, Monday, March 5, 2018 by George Zimmerman, P802.3cg Task Force chair.

Attendance for the meeting is listed in Appendix A

All presentations referenced in these minutes are located on the [March 2018 802.3cg public website](#).

Administrative Matters

Mr. Zimmerman appointed Jon Lewis as recording secretary for this session.

**Motion #1: Move to approve the agenda as shown in agenda\_3cg\_01c\_0318.pdf.**

**M: Steve Carlson S: Mick McCarthy**  
**Approved by voice without opposition (Procedural > 50%)**

The Task Force Chair asked if there was any objection to moving introductions to later in the agenda.

George Zimmerman displayed the agenda in agenda\_3cg\_01c\_0318.pdf.

**Motion #2: Move to approve minutes of IEEE P802.3cg 10 Mbps Single Twisted Pair Ethernet Task Force from March 2018 as posted.**

**M: Clark Carty S: Valerie Maguire**  
**Approved by voice without opposition (Procedural > 50%)**

- Mr. Zimmerman noted that there should be no recording or photography permitted.
- Mr. Zimmerman asked if anyone was attending from the press including those who would run a public blog on this meeting. None responded.

Chair reviewed the goals for the meeting, big ticket items, access to the reflector and website, and ground rules for the meeting.

**Attendance,** Mr. Zimmerman advised the group that the attendance tool would be covered on Tuesday morning since it is only possible to sign in to the opening plenary meeting on Monday. The physical attendance log was introduced and passed to the group.

**IEEE Patent Policy,** at **1:13 PM**, Mr. Zimmerman noted that the patent policy had been updated and then read slides 1-4 of the patent policy aloud. Mr. Zimmerman then made the call for potentially essential patents at **1:14 PM**, none responded. Mr. Zimmerman then read aloud slide #4.

Mr. Zimmerman reviewed the slide entitled “Participation in IEEE 802 Meetings” and asked if there was any discussion necessary, none responded.

Chair reviewed the IEEE 802.3 Standards process and where the Task Force was in the process and the process by which we will develop the standard.

### **LIAISONS**

[Liaison from TIA TR42 on single balanced pair topics](#)

[Liaison from ISO/IEC JTC1 SC25 WG3 to IEEE 802.3 on 1-pair cabling](#)

### **PRESENTATIONS**

Mr. Zimmerman showed the PAR, CSD and Objectives URLs and reviewed the approved timeline for the Task Force.

**Title: Editor’s Report: P802.3cg Draft D1.1 (maguire\_3cg\_01\_0318.pdf)**

**Presenter: Valerie Maguire, Siemon; P802.3cg chief editor**

The Editor outlined the comments by topic, and reminded participants that the comments had been posted by topic on the website. The Editor asked if anyone would like more time to review the EZ bucket or needed any comments pulled from the EZ bucket list.

**Motion #3: Accept the resolutions to all P802.3cg d1p1 comments marked with the Topic “EZ” and posted as “EZ Bucket” comments sorted by clause/subclause” excluding none.**

**M: S:**

**Approved by voice without opposition (Procedural > 50%)**

At this time, the editor’s report was concluded.

## **COMMENT RESOLUTION**

Decisions during comment resolution were made by consensus, except where noted that motions were taken. For details on comment resolution see the posted comment database.

Presentations related to comment resolution are listed below. Details on the outcome of these presentations are contained in the comment database. Presentations are not ordered as they were presented during comment resolution.

<b>Presentations related to comments</b>		
<a href="#">Comment 19: PCS Receive State Diagram</a>	Steffen Graber	Pepperl+Fuchs
<a href="#">Comment 43: MDIO Register Mapping</a>	Steffen Graber	Pepperl+Fuchs
<a href="#">Comment 45: Clause 98 Timer Values</a>	Steffen Graber	Pepperl+Fuchs
<a href="#">Comment 56: Intrinsically Safe Applications</a> (rev a)	Steffen Graber	Pepperl+Fuchs
<a href="#">Comments 71 &amp; 72: 10BASE-T1L link segment return loss</a>	Chris DiMinico	MC Communications/Panduit
<a href="#">Comment 74: Open issues on the 1000m link specification Draft 1.0 (12/20/17 adhoc, pp. 5-7)</a>	Dieter Schicketanz	Reutlingen Univ.
<a href="#">Comment 74: Link Segment Mode Conversion</a>	Chris Diminico	MC Communications/Panduit
<a href="#">Comments 77, 98-101: Automotive Environmental Requirements</a> (also a contribution to 802.3ch)	Natalie Wienckowski	GM
<a href="#">Comments 77 &amp; 79: 10BASE-T1S MDI voltage tolerance and multi-drop powering</a>	Chad Jones Lennart Yseboodt	Cisco Systems Philips
<a href="#">Comments 111, 113-116, 121: Clause 147 figures</a>	Piergiorgio Beruto	CanovaTech
<a href="#">Comment 134/135: Details for MDI connector specification according to IEC 61076-3-125</a> (02 version)	Matthias Fritsche	Harting
<a href="#">Comment 154: Figure 147-1</a>	Conrad Zerna	Fraunhofer IIS
<a href="#">Comments 148, 149, 155: TX amplitude, PSD and Emissions</a>	Conrad Zerna	Fraunhofer IIS
<a href="#">Comments 148, 149, 155: EMC/EMI measurements on 10BASE-T1S evaluation boards</a>	Piergiorgio Beruto	CanovaTech
<a href="#">Comments 109, 110, 112-120, 123-5, 127, 130-1, 133, 144-5: Graphical view of proposed resolutions (CI 147, 148)</a> (LATE)	Piergiorgio Beruto	CanovaTech

**The meeting recessed for a short break at 3:00 PM.**

**The meeting resumed at 3:34 PM.**

The Chair brought the meeting back to order.

**Motion #4:** Move to amend the minutes from the January interim to correct the following:

- Title: Editor's Report: P802.3cg Draft D0.3 (maguire\_3cg\_01\_0118.pdf) (replace 1 with 0)

- **Motion #9: Move to adopt objectives modifications on slide 5-7 of jones\_10spe\_10bpe\_04\_0118\_d7.pdf (replace 03 with 04 and d6 with d7)**

**M: Peter Wu S: Mick McCarthy**  
**Approved by voice without opposition (Procedural > 50%)**

After concluding that administrative business comment resolution continued.

The Chair noted that the meeting would reconvene at 8:00 AM and that Jon Lewis would convene the meeting as the Chair would be attending 802.11 PAR review meeting on behalf of both P802.3cg and the 10 BPE study group.

**The Task Force meeting recessed for the day at 6:10 PM.**

**The Task Force was brought to order at 8:01 AM.**

Mr. Lewis called the meeting to order.

The following minutes were recorded by Craig Chabot, UNH-IOL given Mr. Lewis was running the meeting.

- 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. None responded.

**Attendance**, Mr. Lewis advised the group of the IEEE meeting attendance tool and procedures, including both the attendance log and the web attendance tracking tool (IMAT).

**IEEE Patent Policy**, at **8:05 AM**, Mr. Lewis asked if there were any attendees that had not seen the patent policy this week, none responded. Mr. Lewis then made the call for potentially essential patents at **8:07 AM**, and none responded. Mr. Lewis then read aloud slide #4.

At **8:08**, Mr. Lewis asked for introductions from the Task Force.

Comment Resolution continued at **8:10 AM**. Presentations shown are in support of comment resolution.

At **8:42**, Mr. Lewis asks if there is any objection from the Task Force to reopen comment #74 at the request of Chris Diminico. Hearing none, the comment is reopened, and Chris reviews the relevant presentation.

**Title: Comment 74: Link Segment Mode Conversion (diminico\_01\_0318.pdf)**  
**Presenter: Chris Diminico, MC Communications/Panduit**

At **9:00**, Mr. Lewis asks if there is any objection from the Task Force to reopen comment #45 at the request of Stefan Graber. Hearing none, the comment was reopened and closed after discussion.

**9:03: Straw Poll #1:**

I am likely to attend 802.3cg at:  
Attend May 2018 interim, EA, Pittsburgh, PA, USA:  
Y: 38 N: 2 M: 8  
Attend July 2018 802 San Diego, CA, USA plenary:  
Y: 38 N: 1 M: 7

At **9:07**, Comment resolution continued with comments on Clause 148. Presentations shown are in support of comment resolution.

**The meeting recessed for a short break at 10:00 AM.**

**The meeting resumed at 10:28 AM.**

Comment resolution continued with comments on Clause 147. Presentations shown are in support of comment resolution.

**Title: 802.3CG EMISSION LIMITS AND PSD MASK (zerna\_3cg\_02b\_0318.pdf)**  
**Presenter: Conrad Zerna, Fraunhofer**

At **10:52**, Mr. Lewis asked the Task Force if there was any objection to a late contribution to help resolve comment# 154, at the request of George Zimmerman. There were no objections.

**Title: PMA Electricals, PMD, Mixing Segment, and MDI Skeleton Proposal for 10BASE-T1S in D1.2 (zimmerman\_3cg\_01a\_0318.pdf)**  
**Presenter: George Zimmerman, CME Consulting/ADI, APL Group, BMW, Cisco, Commscope, LTC**

At **11:23**, all comments had been closed.

**Title: Closing Chief Editor's Report P802.3cg draft 1.1 (maguire\_3cg\_02a\_1118.pdf)**  
**Presenter: Valerie Maguire, Siemon; P802.3cg chief editor**

**Motion #5: Move to instruct Chief Editor to create IEEE P802.3cg D1.2 from D1.1 and closed comments.**

**M: Valerie Maguire**  
**S: Gergely Huszak**

**MOTION PASSES by voice without opposition**

**Motion #6:** Move to instruct editors to regenerate state diagrams and other figures in FrameMaker and implement PICS as needed throughout draft 1.2 prior to Task Force review

**M:** Valerie Maguire

**S:** Gergely Huszak

**MOTION PASSES by voice without opposition**

At **12:41**, presentations not related to comments begin.

**Title:** IEEE P802.3cg Mixing Segment Node Loading

**Presenter:** David Brandt, Scott T. Griffiths, Rockwell Automation

**The meeting recessed for lunch at 12:10 PM.**

**The meeting resumed at 1:32 PM.**

The Chair called the meeting to order and continued with presentations not related to comment resolution. At this time Jon Lewis resumed the duties of recording secretary.

**Title:** 10BASE-T1L Noise Test (Graber\_3cg\_05\_0318.pdf)

**Presenter:** Stefan Grabber, Pepprl+Fuchs

**Title:** Power Compatibility for 10SPE (jones-yseboodt\_3cg\_01\_0318.pdf)

**Presenter:** Chad Jones, Cisco; Lennart Yseboodt, Philips Lighting

**Title:** 10BASE-T1S Scrambler Analysis (AlternateScrambleScheme\_20180306.pdf)

**Presenter:** Hongming An, Microchip

**Motion #6:** Move that the IEEE P802.3cg Task Force accept slide 5 of jones-yseboodt\_3cg\_01a\_0318.pdf as an additional resolution to comment 77.

**M:** Lennart Yseboodt

**S:** Chad Jones

**Y:** 28 **N:** 1 **A:** 22

**Motion Passes**

**The meeting recessed for a short break at 3:08.**

**The meeting resumed at 3:30 PM.**

The Chair called the meeting back to order and continued presentations not related to comments.

**Title: 10BASE-T1S Data-Rate Fairness (Pandey\_3cg\_01a\_0318.pdf)**  
**Presenter: Sunjan, Pandey**

**Motion #8:** Move to adopt the synchronous scrambler with fixed seed for the 10BASE-T1S PHY as specified on page 35 in “AlternateScrambleScheme\_20180306.pdf” with editorial license to make the description fit within PCS and the related state diagrams in clause 147.  
**M: Hongming An S: Piergiorgio Beruto**  
**Y:11 N:4 A:33**  
**Motion Fails**

**Motion #9:** Move to adopt the PAR and CSD responses modified to respond to comments received as reflected in zimmerman\_3cg\_02\_0318.pdf  
**M: Jon Lewis S: Mehmet Tazebay**  
**Y:40 N:0 A:8**  
**802.3 voters**  
**Y: 27 N: 0 A:4**  
**Motion Passes**

Having exhausted the agenda items the Chair asked if there was any further business, none responded.

**Motion #10: Move to adjourn**  
**M: Eric DiBiaso S: Gergely Huszak**  
**Motion Passes by voice without opposition**  
**Passes by Voice without Opposition**

**THE MEETING ADJOURNED AT 4:26PM**

*Appendix A: Attendees at the IEEE P802.3cg 10 Mb/s Single Twisted Pair Ethernet Task Force Meeting, March 5-6, 2018.*

<b>IEEE P802.3cg Task Force Mar'18</b>				<b>3/5/18</b>	<b>3/6/18</b>
<b>Last Name</b>	<b>First Name</b>	<b>Employer</b>	<b>Affiliation</b>	<b>Monday</b>	<b>Tuesday</b>
Abramson	David	Texas Instruments	Texas Instruments		X
Aekins	Robert	Legrand	Legrand	X	
Agnes	Andrea	ST Microelectronics	ST Microelectronics		X
Alessandro	Ingrassia	Canova Tech	Canova Tech		X
An	Hongming	Microchip	Microchip	X	X
Babenko	Sasha	Molex	Molex	X	X
Beruto	Piergiorgio	Canova Tech SRL	Canova Tech SRL	X	X
Brandt	David	Rockwell Automation	Rockwell Automation	X	X
Brownlee	Phillip	TDK	TDK	X	X
Brychta	Michal	Analog Devices	Analog Devices	X	X
Carlson	Steve	High Speed Design	Robert Bosch/Marvell	X	
Carty	Clark	Cisco	Cisco	X	X
Caudron	Cedric	Aptiv	Aptiv	X	
Chabot	Craig	UNH-IOL	UNH-IOL	X	X
Dachin	Tseng	Realtek	Realtek	X	X
DiBiaso	Eric	TE Connectivity	TE Connectivity	X	X
DiMinico	Christopher	MC Communications	Panduit	X	
Donahue	Curtis	UNH - IOL	UNH - IOL	X	X
Fathi	Borhan	Nvidia	Nvidia	X	X
Franchuk	Brian	Emerson Automation Solutions	Emerson Automation Solutions	X	X
Fritsche	Matthias	Harting	Harting	X	X
Gardner	Mike	Molex, LLC	Molex, LLC	X	X
Gauthier	Claude	OmniPHY	OmniPHY	X	X



IEEE P802.3cg Task Force Mar'18				3/5/18	3/6/18
Last Name	First Name	Employer	Affiliation	Monday	Tuesday
Goergen	Joel	Cisco	Cisco	X	X
Graber	Steffen	Pepperl+Fuchs	Pepperl+Fuchs	X	X
Grau	Olaf	Robert Bosch	Robert Bosch		X
Grow	Robert	RMG Consulting	RMG Consulting	X	X
Gunther	Craig	Harmon International	Harmon International		X
Gustlin	Mark	Xilinx	Xilinx		X
Hess	Dave	Cord Data	Cord Data		X
Huszak	Gergely	Kone	Kone	X	X
Jimenez	Andrew	Anixter Inc.	Anixter Inc.	X	X
Jones	Chad	Cisco	Cisco		X
Kabra	Lokesh	Synopsys	Synopsys	X	
Katz	David	Phoenix Contact	Phoenix Contact	X	X
Kawatsu	Yasuaki	Apresia Systems	Apresia Systems	X	
Kinchi	Hideki	JAE	JAE	X	
Krieger	Olaf	Volkswagen	Volkswagen	X	X
Lackner	Hans	QoSCom Gmbh	QoSCom Gmbh	X	X
Law	David	Hewlett Packard Enterprise	Hewlett Packard Enterprise	X	
Lawlis	James	Ford Motor Company	Ford Motor Company	X	X
Lenz	Sean	Panduit	Panduit	X	X
Lewis	Jon	Dell   EMC	Dell   EMC	X	X
Lin	Alex	Mediatek	Mediatek	X	X
Maguire	Valerie	Siemon	Siemon	X	X
Matheus	Kirsten	BMW	BMW	X	X
Matola	Larry	Aptiv	Aptiv	X	X
McCarthy	Mick	Analog Devices	Analog Devices	X	X
McClellan	Brett	Marvell	Marvell	X	X
Medina	Marcel	Spirent	Spirent	X	X

IEEE P802.3cg Task Force Mar'18				3/5/18	3/6/18
Last Name	First Name	Employer	Affiliation	Monday	Tuesday
Miao	Guangjun	Mediatek	Mediatek	X	X
Miller	Martin	Microchip	Microchip	X	X
Moritake	Toshijuki	JAE	JAE	X	
Mueller	Thomas	Rosenberger	Rosenberger	X	X
Nordin	Ron	Panduit	Panduit	X	
Oliver	Doug	Ford Motor Company	Ford Motor Company	X	X
Pandey	Sujan	NXP	NXP	X	X
Posthuma	Carl	Nokia	Nokia		X
Renteria	Victor	Bel Fuse Inc.	Bel Fuse Inc.	X	X
Rubino	Litsa	Delphi	Delphi	X	X
Scantamburlo	Nicola	CanovaTech	CanovaTech	X	X
Schuessler	Jim	Samsung Electronics	Samsung Electronics	X	X
Shariff	Masood	Commscope	Commscope	X	X
Skiest	Stephen	Panduit	Panduit	X	X
Smith	Daniel	Seagate	Seagate		X
Sparrowhawk	Bryan	Leviton	Leviton	X	
Specht	Johannes	University of Duisburg-Essen	General Motors		X
Taiji	Kondo	Megachips	Megachips	X	X
Tazebay	Mehmet	Broadcom Ltd.	Broadcom Ltd.	X	
Tellas	Ron	Belden	Belden	X	X
Thaler	Pat	Broadcom Ltd.	Broadcom Ltd.	X	
Thompson	Geoff	GraCaSI SA.	Independent	X	X
Vaden	Sterling	Surtec, Ind.	Vaden Enterprises	X	X
Voss	Bob	Panduit	Panduit	X	X
Wienckowski	Natalie	GM	GM	X	X
Withey	James	Fluke Networks	Fluke Networks	X	X

IEEE P802.3cg Task Force Mar'18				3/5/18	3/6/18
Last Name	First Name	Employer	Affiliation	Monday	Tuesday
Woodman	Brad	Molex	Molex	X	X
Wu	Peter	Marvell	Marvell	X	X
Wucher	Markus	Endress+Hauser	Endress+Hauser	X	X
Xu	Li	Huawei	Huawei	X	X
Yseboodt	Lennart	Philips Lighting	Philips Lighting		X
Yun	Zhang	Huawei	Huawei	X	X
Zerna	Conrad	Frannhofer IIS	Frannhofer IIS	X	X
Zielinski	Martin	Emerson Automation Solutions	Emerson Automation Solutions	X	X
Zimmerman	George	CME Consulting	Commscope, Aquantia, CME Consulting, Cisco, ADI, BMW, APL Group	X	X
Zweck	Harald	Infineon Tech.	Infineon Tech.	X	X