

Unconfirmed Meeting Minutes: IEEE P802.3bq 40GBASE-T Task Force
January 13-14, 2015
Atlanta, GA, USA

Prepared by George Zimmerman

IEEE P802.3bq 40GBASE-T Task Force meeting convened at 08:10 AM, Tuesday, January 13, 2015 by David Chalupsky, 802.3bq Task Force Chair.

Attendance is listed in Appendix A

ADMINISTRATIVE MATTERS

Presentation: [agenda_3bq_01_0115.pdf](#)

Presenter: Dave Chalupsky, Chair.

The Chair called for introductions and affiliations, the participants introduced themselves, and the Chair then proceeded with the agenda.

The Chair reviewed the agenda. Mr. Chalupsky turned to presentation agenda_3bq_01_0115.pdf and reviewed the schedule of presentations for the meeting.

Motion #1: Approve the agenda from [agenda_3bq_01_0115.pdf](#)

M: Shadi AbuGhazaleh

S: Alan Flatman

Approved by voice vote without objection (Procedural > 50%)

Motion #2: Approve the minutes from the November 2014 meeting

(http://www.ieee802.org/3/bq/public/nov14/unconfirmed_minutes_3bq_1114.pdf)

M: Shadi AbuGhazaleh

S: Pete Cibula

Approved by voice vote without objection (Procedural > 50%)

The Chair then resumed the review of presentation agenda_3bq_01_0115.pdf:

- Mr. Chalupsky 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. Chalupsky noted that there should be no recording or photography without permission.

Mr. Chalupsky reviewed the goals for the meeting, access to the reflector and website, and ground rules.

Mr. Chalupsky then continued review of the presentation, Big Ticket items for this meeting.

Attendance, Mr. Chalupsky advised the group of the IEEE meeting attendance tool and procedures, including both the attendance book and the web attendance tracking tool.

IEEE Patent Policy, at **8:25 AM**, Mr. Chalupsky showed slides 0 through 4 patent policy from [agenda 3bq_01_0115.pdf](#). Mr. Chalupsky showed slide 0 and read aloud slides 1 through 4. Mr. Chalupsky made the call for potentially essential patents at **8:27 AM**, and none responded. Mr. Chalupsky then completed the reading of slide #4.

Mr. Chalupsky then continued review of the presentation, discussing that the group had entered the “Task Force Review” phase where we would be primarily comment driven.

LIAISONS

The Chair moved to liaisons, and noted liaisons to 802.3 which Mr. Law, Chair of the 802.3 Working Group had assigned to the Task Force:

[TR42-2015-02-xxx Outgoing Category 8 Liaison to IEEE 802 3.pdf](#) (received prior to this meeting) conveying [PN-568-C.2-1, Draft 3.0 To be published as ANSI/TIA-568-C.2-1](#) conveying the latest draft(s) of the category 8 cabling specification.

The Chair completed review of the presentation noting the project objectives which were unchanged from the prior meeting, and since the group has been in Task Force.

PRESENTATIONS

The Chair then moved to the presentations for the meeting. (Secretary’s note – where significant group discussion occurred, particularly involving future actions, a summary of any follow-on points is provided. Abstracts are given as a guide to the presentation material, where possible, these are as provided by authors.)

Title: P802.3bq Receiver Common Mode Noise Rejection Ad Hoc Report
([cibula 3bq_01b_0115.pdf](#))

Abstract: The presenter described the status and next steps for the ad hoc organized to investigate the receiver common mode noise rejection (aka “cable clamp”) test, and develop corresponding text for 802.3bq to adopt for clause 98.5.4.3. The ad hoc had held three telephonic meetings since the November Task Force meeting. Meetings clarified some measurements and results from the November Task Force meeting, reviewed some of the relevant aspects of tests related to the cable clamp fixture and calibration, and reviewed potential issues with shielding and shielded systems. Ad hoc meetings are scheduled for every other Wednesday with the goal of providing text for the standard prior to the March plenary.

Presenter: Pete Cibula, Intel, Chair 802.3bq RXCMRR ad hoc

Discussion: Questions were asked and answered.

At 08:45 am, Mr. Cibula assumed the duties of secretary so Mr. Zimmerman could present and resolve comments as editor. Decisions during comment resolution were made by consensus, with one motion being taken, reported below.

Title: 802.3bq Editor's Report ([zimmerman_3bq_01_015.pdf](#))

Abstract: The editor reported on the status and comments received of the draft 1.1.1, along with a proposed agenda for comment resolution

Presenter: George Zimmerman, CME Consulting / Aquantia & Commscope, Chief Editor IEEE 802.3bq

Discussion:

The Chief Editor presented his report (zimmerman_3bq_01_015.pdf), including the present status of the draft, a summary of comments received against D1.1.1, and a preview of anticipated changes associated with incorporating the 25GBASE-T PHY into the specification. Note that we will be moving from Clause 98 to Clause 105.

COMMENT RESOLUTION

Comment resolution began at 9:05AM. Discussion related to specific comments is noted in the following:

- Comment #145, noting that the XLGMII is a logical and not a physical/electrical interface, served as a reminder that (as noted in the Editor's report) every 40Gb (64 bit) XLGMII reference will need to be parallelized to map the 25Gb (32 bit) interface being defined by P802.3by (also related to Comment #169 on control code alignment).
- Comment #156, related to periodically resetting the training sequence, notes that this behavior is not used by the current PHY. The Editor requested that the commenter identify the specific location in the draft where the proposed text should be located by the end of next week (January 23rd, 2015).
- Comment #157, suggesting an alternate RS-FEC implementation, was accompanied by a supporting contribution (langner_3bq_01a_0115.pdf).

Title: RS options for 40GBASE-T ([langner_3bq_01a_0115.pdf](#))

Abstract: This contribution provides a proposal to resolve comments related to 98.3 PCS Specification

Presenter: Hossein Sederat, Aquantia, co-author: Paul Langner, Aquantia

Discussion: The proposed modification to subclause 98.3.2.2.2 has a stated advantage of providing greater and more flexible protection against uncoded bit errors. Discussion of the comment and proposal concerned the complexity of, and the potential for uncharacterized or unknown behavior in, the corresponding transcoding. Other participants asked about the effectiveness of the proposed change in protecting errors induced in an impulse noise environment, with the response that while it is not a specific remedy for impulse noise, in general the proposed smaller symbol groups and finer granularity allow better correction. Discussion about the remaining 2 zero bits and the 1 auxiliary bit confirmed that there is no intended purpose for the 2 zero bits, and that the 1 auxiliary bit remains unscrambled as in 10GBASE-T. The Editor requested that, if accepted, the commenters provide alternate drop-in text and figures for the draft by the end of next week (January 23rd, 2015). The Editor then proposed a straw poll to evaluate support for the comment and suggested remedy. Straw poll results suggested an inclination to adopt, but insufficient support to pass a motion to adopt the suggested remedy. The comment was left open and deferred until later in the meeting, allowing commenters time to educate those needing more education or information and build consensus for a motion to adopt.

- Comment #160, proposing to move clause 98.5.4.3 and any extensions which are not normative requirements to an informative annex, led to discussion of both some aspects of the requirement and the procedural implications of the suggested remedy. A primary concern related to the subclause is the relatively open definition of the operational requirement for the specification (“Operational requirements of the transceiver during the test are determined by the manufacturer.”), a concern which is being discussed in the Rx CMNR ad hoc. Procedurally, participants expressed concern that if the subclause was moved to an informative annex at this time, it would be difficult to promote the requirement back to Clause 98 if that is the conclusion of the ad hoc. A straw poll suggested that a majority of participants had no opinion or needed more information to accept the suggested remedy. The comment was accepted in principle subject to further review in the Rx CMNR ad hoc. The ad hoc was strongly encouraged to focus on the issue in advance of the 3rd Task Force review of the draft.

The Task Force then recessed for a break at 10:30AM and re-convened to continue comment resolution at 10:51AM.

- Comment #133, suggesting that a PSACRF equation similar to Equation 98-44 be added to the text, resulted in discussion of the need to include the informative text and equation (similar to that on P163, line 28 through 40) in this document as coupling over 100m of cabling is not relevant to this project.

- Comments #154 and #155, requesting modifications to the suggested impedance balance measurement, was supported with a late contribution ([cibula_3bq_02_0115.pdf](#)) which provided some additional background on the suggested remedy as well as proposed text. The Editor requested that the commenter provide the proposed text for the suggested remedy and encouraged PHY participants to evaluate

Participants then resumed discussion of Comment #157, with commenters requesting a motion to accept the suggested remedy.

Motion #3: Adopt the 512/513b transcoding & 8-bit RS FEC proposal in

langner_3bq_01a_0115.pdf

M: Hossein Sederat S: Kamal Dalmia

Technical (>= 75%)

Y:24

N:7

A:3

MOTION PASSES

At 11:45AM, the Editor requested that the Task Force chair lead the meeting (so as to avoid any conflicts related to the Editor's affiliation).

Discussion of the motion included suggestions that the proposed RS-FEC changes provide improved performance with relatively small changes to the existing implementation. Participants were in general agreement that the ability to correct three 8-bit symbols is a benefit, however, some noted that the implications for the transcoder have not been fully considered and may be a concern. It was noted that the suggested code has been used in other contexts, and therefore isn't a new scheme. Implications to the technical completeness of the draft and the Task Force's ability to pre-submit the draft to the Working Group were discussed as an additional consideration. The motion to accept the suggested remedy passed and the comment was accepted in principle.

Following the motion, the Editor resumed leading the meeting to complete the resolution for Comment #157 and close comment resolution on P802.3bq Draft 1.1.1

Having completed comment resolution, Mr. Zimmerman resumed recording secretary duties at 11:55AM.

At 11:59AM, the Task Force chair announced a recess until 1:30PM, at which time the Task Force would discuss the path forward towards the next Task Force milestone

The meeting resumed at 1:30PM.

PRESENTATIONS NOT TIED TO COMMENTS

The committee heard no presentations not tied to comments.

DISCUSSION, MOTIONS & STRAW POLLS

Having concluded the presentations for the meeting, the Chair then moved to discussion, motions and (additional) straw polls.

The Chair discussed the path to working group ballot and how the proposed addition of 25G to the objectives and PAR might impact that. The Chair noted that the planned draft 1.2 would have to be pre-submitted to the 802.3WG in advance of the March meeting in anticipation of requesting WG ballot.

Mr. Law, Chair of the 802.3WG commented from the floor that if a 802.3bq draft were technically complete for 40G only, it could enter working group ballot in March, and if the 25G objective and PAR modification were made at the March Stds Board meeting a comment could be made to add 25G to the document during WG ballot.

The Chair then asked for 802.3bq to recess to allow the 25GBASE-T Study Group to meet, with the plan that 802.3bq would reconvene.

802.3bq recessed at 2:05PM, to reconvene at 11AM or earlier on Wednesday, January 14, 2015.

The meeting resumed at 10:55AM Wednesday January 14, 2015

The Chair called for introductions and affiliations, the participants introduced themselves, and the Chair then proceeded with the agenda.

The Chair reviewed the agenda. Mr. Chalupsky turned to presentation agenda_3bq_01_0115.pdf and reviewed the schedule of presentations for the meeting.

Attendance, Mr. Chalupsky advised the group of the IEEE meeting attendance tool and procedures, including both the attendance book and the web attendance tracking tool.

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The Chair then resumed the review of presentation agenda_3bq_01_0115.pdf:

- Mr. Chalupsky 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. Chalupsky noted that there should be no recording or photography without permission.

Mr. Chalupsky then discussed the timeline and the path to working group ballot, noting that if 25GBASE-T is adopted into P802.3bq that an additional WG recirculation and interim meeting (June 2015) may be necessary to keep to the adopted schedule for requesting Sponsor Ballot.

Motion #4: Move to:

- **Generate Draft 1.2 from Draft 1.1.1 and closed comments**
- **Initiate a third Task Force review**
- **Pre-submit Draft 1.2 to IEEE 802.3 in anticipation of requesting WG ballot at the March Plenary**

M: Alan Flatman S: Paul Vanderlaan
Technical > 75%
Y: 32 N: 0 A: 1
MOTION PASSES

FUTURE MEETINGS

Straw Poll on future meetings

I will be attending:

March 2015 Plenary Week, Week of March 8 - Berlin, Germany

Y: 22

N: 7

Maybe: 3

May 2015 Interim, week of May 18 - Omni William Penn Hotel, Pittsburg, PA, USA

Y: 25

N: 0

Maybe: 5

No further motions of business were offered.

Adjournment

Motion #5: To adjourn the meeting.

M: Pete Cibula S: Ron Cates

MOTION PASSES by voice without opposition

The Meeting was adjourned at 11:23AM, Wednesday, January 14, 2014.

Appendix A: Attendees at the IEEE P802.3bq 40G BASE-T Task Force Meeting,
January 13-14, 2015

Total attended:	37		Daily # attended:	37	19
IEEE P802.3bq 40GBASE-T Task Force January 2015				1/13/2015	1/14/2015
Last Name	First Name	Employer	Affiliation	Tues	WEDS
Abughazaleh	Shadi	Hubbell	Hubbell	X	X
Bains	Amrik	Cisco	Cisco	X	
Belopolsky	Yakov	Bel Stewart	Bel Stewart	X	X
Bourgeois	Stephane	Belden	Belden	X	X
Brillart	Theo	Fluke Electronics	Fluke Electronics	X	X
Carty	Clark	Cisco	Cisco	X	
Chalupsky	David	Intel	Intel	X	X
Cibula	Pete	Intel	Intel	X	X
Dalmia	Kamal	Aquantia	Aquantia	X	X
DiMinico	Christopher	MC Communications	Panduit	X	
Farjad	Ramin	Aquantia	Aquantia	X	
Feyh	German	Broadcom	Broadcom	X	X
Flatman	Alan	LAN Technologies	LAN Technologies	X	
Graba	Jim	Broadcom	Broadcom	X	
Hammond	Bernard	TE Connectivity	TE Connectivity	X	
Hess	Dave	Cord Data	Cord Data	X	X
Jones	Peter	Cisco	Cisco	X	
Kish	Paul	Belden	Belden	X	X
Law	David	HP	HP	X	
Lewis	Jon	Dell	Dell	X	X
McClellan	Brett	Marvell	Marvell	X	
Mei	Richard	Commscope	Commscope	X	X
Miller	Jonas	Pulse Electronics	Pulse Electronics	X	
Moffitt	Bryan	Commscope	Commscope	X	X
Renteria	Victor	Belfuse Inc	Belfuse Inc	X	X
Sedarat	Hossein	Aquantia	Aquantia	X	X
Sedio	Steve	Foxconn	Foxconn	X	X
Shariff	Masood	Commscope	Commscope	X	
Shrinani	Ramin	Aquantia	Aquantia	X	
Souvignier	Tom	Broadcom	Broadcom	X	X
Sparrowhawk	Bryan	Leviton	Leviton	X	X
Vaden	Sterling	Vaden Enterprises	Vaden Enterprises	X	

Vanderlaan	Paul	Berk-Tek LLC	Berk-Tek LLC	x	
Wagner	Bob	Panduit Corp.	Panduit Corp.	x	
Wu	Peter	Marvell	Marvell	x	
Yu	Jerome	Realtek	Realtek	x	
Zimmerman	George	CME	Commscope, Aquantia	x	x