

Unconfirmed Meeting Minute: IEEE802.3bp 1000BASE-T1 Task Force
May 14-15, 2014
Norfolk, VA, USA
Prepared by Thomas Hogenmüller

IEEE802.3bp 1000BASE-T1 Task Force meeting convened at 9:05 am, Wednesday, May 14, 2014 by the chair Steve Carlson.

Attendance is listed in Appendix A

Administrative Matters

Presentation: http://www.ieee802.org/3/bp/public/mar14/dwelley_3bp_01_0314.pdf

Thomas Hogenmüller is assigned for recording secretary

The chair called for introductions and affiliations

Motion #1: Approve the agenda as modified from agenda_3bp_0514.pdf

M: Gerry Yurko S: George Zimmermann

Approved by voice without opposition (Procedural > 50%)

Motion #2: Approve the minutes from the March Meeting

http://www.ieee802.org/3/bp/public/mar14/Unconfirmed_minutes_3bp_0314.pdf

M: Todd Hermann S: Stefan Buntz

Motion passes by voice without opposition

Task Force Decorum slide was shown. Chair asked if persons from the press are in the room: No press in the room recognized.

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

IEEE Patent Policy, at 9:25 a, Chair showed slide 0 to 4 patent policy from agenda_3bp_0514.pdf. Chair read aloud slides from 0 through 4. Chair made the call for potentially essential patents at 9:25 am, and none response.

Chair then continued review of the presentation, including overview of the IEEE standards organization and the standards development process.

Liaisons

The Chair informed about the important liaison with IEEE802.3bu PoDL. Chair of IEEE802.3bu Dave Dwelley informed about the Liaison response as shown in

http://www.ieee802.org/3/bp/public/mar14/dwelley_3bp_01_0314.pdf

Chair continues with organizational matters: Usage of private area, Task Force Operation, PAR, 5 C, Objectives

Chair asked if there is any objection to change the sequence of the Agenda. No objection.

Presentations

Title: [IEEE802.3bp \(RTPGE\) PHY Task Force Channel Definitions Ad Hoc report](#)

Discussion: The presentation outlined the plans for the material for the testing annex for CM and alien cross-talk test setups.

Presenter: Chris DiMinico

Co-Author: Mehmet Tazebay

Break at 10:30 to 10:50

Title: [Correction to 1000BASE-T1 PHY 8N/\(8N+1\) Encoder Equations](#)
Summary: A correction to a presentation made in Beijing.
Discussion: The correct equations were shown and the motion from Beijing was re-voted.
Presenter: William Lo
Co-Author:

Motion #3

Move that 1000BASE-T1 PHY encoder use the $8N/(8N+1)$ block as described in Lo_3bp_01_0514.pdf slide 4 (Formal Encoder Definition). This replaces the one previously adopted (Lo_3bp_02_0314.pdf slide 18). The final integer value of N ranging from 1 to 16 inclusive will be decided by the 802.3bp task force at a later date.

The adoption of Clause 55 scrambler referenced in Lo_3bp_02_0314.pdf slide 15 is unaffected.

M: William Lo S: Alex Tan
Y: 24 N: 1 A: 9
MOTION (Technical $\geq 75\%$)

Title: [PoDL Noise Limit](#)
Summary: Response and data from P802.3bp to P803.3bu on power system noise and coupling.
Discussion: This material was supplied to P802.3bu PoDL and resulted in the questions in the liaison response
Presenter: Xiaofeng Wang
Co-Author:

Title: [BCI Profile vs. DFE Taps](#)
Discussion: Request to change BCI limits. OEMS indicated this was risky and might cause failures
Presenter: Shaoan Dai
Co-Author: Zhenzhong Gu

Title: [Differential CW Noise Test Setup & Procedure for 1000BASE-T1](#)
Summary: A test is defined to assess the differential CW noise performance of 1000BASE-T1 devices
Discussion: A number of questions were asked regarding the specific setup.
Presenter: Ahmad Chini
Co-Author: Mehmet Tazebay

Lunch break from 12:05 to 13:20

Title: [Consensus building ideas for 1000BASE-T1](#)
Summary: Areas of possible agreement to move forward
Discussion: Agreement that these proposals had merit and that they should be used.

Presenter: William Lo
Co-Author:

Title: [Signal Constellation Options to achieve Multiple Signaling Objectives in 1000BASE-T1](#)

Summary: Suggested constellations for 1000BASE-T1
Discussion: Many comments on possible alternatives and efficiency gains.
Presenter: Ahmad Chini
Co-Author: Mehmet Tazebay, Mike Tu

Title: [DFE Error Performance Under 1000BASE-T1 Noise Environments](#)
Summary: Impact on DFE taps for given channels and noise environments
Discussion: Question on why certain parameters were chosen
Presenter: Xiaofeng Wang
Co-Author:

Title: [DFE error propagation on FEC for 1000Base-T1](#)
Summary: DFE impacts on FEC
Discussion: Many questions on Slide #4. Error corrected and revised slides presented
Presenter: BZ Shen
Co-Author: Ahmad Chini, Mehmet Tazebay, Mike Tu

Coffee break from 15:20 to 13:35

Title: [Improved TX-PSD Mask for PAM3 Modulation](#)
Summary: Suggested new mask with improved performance and easier implementation
Discussion: Discussion of alternatives (see additional presentations below)
Presenter: Ahmad Chini
Co-Author: Mehmet Tazebay

Title: [Analysis of different filtering schemes for PAM3 Modulation and effective margin to the Mask](#)
Summary: Suggested mask and filter for PAM3 and desirable margins
Discussion: Continuation of TX PSD mask discussion
Presenter: Vijaya Ceekala, Naama Ben-arie, Oren Shalita, Jenny Wu
Co-Author:

Title: [Link Retry Study for 1000BASE-T1](#)
Summary: Do we need a standardized mechanism to synchronize the PHYs in cases where multiple link attempts are necessary to bring up the PHYs?
Discussion: Agreed this was needed to recover from a failed linkup
Presenter: William Lo
Co-Author:

Title: [Thoughts on Modified Clause 73 Auto-Negotiation for 1000BASE-T1](#)

Summary: Additional thought to Beijing proposal by William Lo on the possible use of Clause 73 AN.
Discussion: Agreement that suggested additions were useful.
Presenter: Pat Thaler
Co-Author: Mehmet Tazebay

Title: Link Startup time Specification
Summary: Need clear definitions of what is meant by "link startup time"
Discussion:
Presenter: William Lo
Co-Author:

1st Day closed at 16:50 on Wednesday May 14, and resumed on at 1:10PM Thursday, May 15.
The Chair appointed George Zimmerman as recording secretary for day 2.

The Chair continued with technical presentations and reports from the ad hocs held during the morning.

Title: [802.3bp Baseline Optional Link segment](#)
Summary: The presenter reviewed text for the optional link segment parameters, emphasizing that he is not proposing adding these to the document at this meeting, but indicated that the channel definitions ad hoc would be refining this specification for consensus at a future meeting.
Discussion: The presenter answered questions of clarification regarding the specifications proposed and their relation to cabling physical structure (cabling physical structure was not proposed).
Presenter: Chris DiMinico

Title: 802.3bp Channel Definition Ad Hoc Report
Summary: The presenter reviewed progress in the channel definition ad hoc from the morning's meeting. The ad hoc recommended baseline text for an annex on the Alien Crosstalk test configuration, see ([diminico_3bp_04_0514.pdf](#)). The ad hoc also recommended baseline text for the Common mode conversion test methodology, see ([diminico_3bp_03_0514.pdf](#))
Discussion:
Presenter: Chris DiMinico

Title: [EMC Ad Hoc Report](#)
Summary: The presenter reviewed progress in the EMC Noise Ad Hoc. The Ad Hoc reviewed contributions on the impact of vibration on connectivity, a review of the BCI frequency profiles, questions from the PoDL group, and the Differential CW Noise test setup; and assigned follow up action items and owners for them.
Discussion:
Presenter: Mehmet Tazebay

Title: [PHY Ad Hoc Report](#)
Summary: The presenter reviewed progress in the PHY Ad Hoc. The Ad Hoc addressed the items to be closed to specify the transmitter. The ad hoc reviewed the items common to existing BASE-T PHYs and listed the items which required specific proposals at the July meeting. The ad hoc recommended that proposers leverage and use existing PHY specifications (e.g., Clauses 40 & 55) to propose

text. The presenter also entertained Mr. Bunz to review requirements related to vibration and how they might relate to PHY latency and FEC.

Discussion:

Presenter: Mehmet Tazebay

Title: [Proposal to add auto-negotiation to RTPGE objectives](#)

Summary: The presenter gave a multi-vendor proposal for adding auto-negotiation to this task force's objectives and doing the work in parallel with completing the current PHY specification, along with a proposed timeline leading to a baseline autonegotiation proposal and an 802.3 CFI to add the objective in November 2014.

Discussion: The discussion moved to a straw poll. See below.

Presenter: William Lo

Co-Authors: Mehmet Tazebay, Pat Thaler

DISCUSSION, MOTIONS & STRAW POLLS

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

The Chair asked for a Straw Poll to determine the level of support in the Task Force:

Straw Poll#1:

Should we add auto-negotiation to the P802.3bp/RTPGE objectives and develop auto-negotiation as part of the P802.3bp/RTPGE task force

Y: 28, N: 0

Motion #4

Move that the IEEE P802.3bp task force adopt the following objective:

Support optional single-pair auto-negotiation mechanism

M: William Lo S: Mehmet Tazebay

Y: 25 N: 0 A: 5 (TECHNICAL ≥ 75%)

MOTION PASSES

802.3 Voters Only (FOR INFORMATION)

Y: 17 N: 0 A: 1 (TECHNICAL ≥ 75%)

Motion #5

Move that the IEEE P802.3bp Task Force adopts diminico_3bp_04_0514.pdf as the baseline text for IEEE P802.3bp/RTPGE Draft Standard Annex: Alien Crosstalk Test Procedure

M: Chris DiMinico S: Neven Pischl

Y: 27 N: 0 A: 1 (TECHNICAL ≥ 75%)

MOTION PASSES

802.3 Voters Only (FOR INFORMATION)

Y: 16 N: 0 A: 0 (TECHNICAL ≥ 75%)

Motion #6

Move that the IEEE P802.3bp Task Force adopts diminico_3bp_03_0514.pdf as the baseline text for IEEE P802.3bp/RTPGE Draft Standard Annex XX – Common mode conversion test methodology

M: Chris DiMinico S: Curtis Donahue

Y: 25 N: 0 A: 3 (TECHNICAL ≥ 75%)

MOTION PASSES

802.3 Voters Only (FOR INFORMATION)

Y: 16 N: 0 A: 0 (TECHNICAL ≥ 75%)

BREAK AT 3:07PM UNTIL 3:30PM

The Chair then moved to a discussion of project timeline. The Chair presented a strawman timeline which he planned to formalize, align with IEEE SA meeting dates and submit to the task force for approval in July.

The Chair indicated that the strawman reviewed would be posted to the website.

OTHER ADMINISTRATIVE BUSINESS

The Chair then discussed future meetings and having completed the business of the meeting entertained a motion to adjourn.

Adjournment

Motion #7: To adjourn the meeting.

M: Mehmet Tazebay S: Brad Booth

MOTION PASSES by voice without opposition

The Meeting was adjourned at 3:55 PM, Thursday, May 15, 2014.

Name	Company	Affiliation	T	W	Th
Andy Gardner	Linear Technology	Linear Tech		X	
DAVE DWELLEY	LTC	LTC		X	
WILLIAM LO	MARVELL	MARVELL		X	X
VIJAYA CEEKALA	Texas Instruments	Texas Instruments		X	
Thomas Müller	Rosenberger	Rosenberger		X	tu
Michael Rucks	Delphi	Delphi		X	X
LARRY MATOS	DELPHI	DELPHI		X	X
GARY YURKO	TR	TR		X	X
Stefan Buntz	Daimler	Daimler		X	X
DAVE HESS	self	CORD DATA		X	
Doug Oliver	Ford Mo Co	Ford Mo. Co.		X	
Natalie Wienckowski	General Motors	General Motors		X	X
EFSTATHIOS LARIOS	JAGUAR LAND ROVER	JAGUAR LAND ROVER		X	X
Tom Brown	Vitesse	Vitesse		X	X
Victor Berglund	Vitesse	Vitesse		X	X
Sasha Babenko	Motex	Motex		X	X
MIKE GARDNER	Motex	Motex		X	X
NEVEN FISCHL	Broadcom	Broadcom		X	X
Ahmad Chini	Broadcom	Broadcom		X	X
Jerry Chiang	Foxconn	Foxconn		X	
Curtis Donahue	UNH-IOL	UNH-IOL		X	X
XIAOFENG WANG	Qualcomm	Qualcomm		X	
RALPH MASON	MICROCHIP	MICROCHIP		X	X
TODD HERMAN	CommScope	CommScope		X	X
RUBÉN PÉREZ-ARANDA	RDPOF	RDPOF		X	

P802.3bp Task Force Sign-In Sheet MAY 2014

Name	Company	Affiliation	T	W	Th
Tom SOUVIGNIER	BROADCOM	BROADCOM		X	
CHRIS DIMINICO	ALLIANCE MC COM MANAGER	PARQUIT		X	
PETE CIBULA	INTEL	INTEL		X	
Thomas Hogenmuller	Bosch	Bosch		X	
Helge Zinner	Continental AG	Continental AG		X	
Olaf Krieger	Volkswagen AG	Volkswagen AG		X	✓
Shaoh Dai	Marvell	Marvell		X	X
St Peter Wu	Marvell	Marvell		X	X
Zhenyu Liu	Marvell	Marvell		X	X
Sujan Pandey	NXP	NXP		X	
THUYEN DINH	PULSE ELEC.	PULSE ELEC.		X	
Andreas Arlt	Bosch	Bosch		X	
Matth Meuser	MD Elektronik	MD Elektronik		X	
Thomas Suermann	NXP	NXP		X	
Carlos Parde	KDPOF	KDPOF		X	
Bob Graw	RMG Consulting	RMG Consulting		X	
Mehmet Tazebay	Broadcom	Broadcom		X	X
Pat Thaler	Broadcom	Broadcom		X	
George Zimmerman	OMT Consolty	Commscope			AG.
Bernad Hornmeger	Phoenix Contact	Pxl		X	X
BZ Shen	Broadcom	Broadcom		X	X
Bob Graw	RMG Consulting	RMG Consulting		X	X

