May 16, 2013
Victoria, BC, Canada

Prepared by George Zimmerman

IEEE P802.3bq 40GBASE-T Task Force meeting convened at 09:02AM, Thursday, May 16, 2013 by David Law, 802.3 Working Group chair.

Attendance is listed in Appendix A

ADMINISTRATIVE MATTERS, APPOINTMENTS

Mr. Law appointed George Zimmerman as recording secretary for this session

Mr. Law explained that the Working Group chair appoints the Task Force Chair, and the Task Force would confirm the appointment. Mr. Law then reminded the group that he had announced his intention to appoint David Chalupsky Task Force Chair at the March 2013 Plenary. He then appointed Mr. Chalupsky as the Task Force Chair, and asked the group for a motion for confirmation.

Motion #1: To confirm the appointment of David Chalupsky as the 802.3bq 40GBASE-T Task Force Chair.
**M:	W. Diab	S:	A. Flatman**
**Y:	27	N: 0	A: 2**
MOTION PASSES UNANIMOUSLY

Mr. Chalupsky then appointed Mr. Zimmerman the Recording Secretary for the Task Force, until further notice (covering future meetings).

Mr. Chalupsky then appointed Mr. Bill Woodruff as the Task Force Vice Chair.

Presentation:	agenda_01a_0513_40GBT.pdf
Presenter:	Dave Chalupsky, Chair.

The Chair called for introductions and affiliations, and a short joke, song or limerick.

The Chair reviewed the agenda. Mr. Chalupsky turned to presentation agenda_01a_0513_40GBT.pdf and reviewed the schedule of presentations for the meeting.

**Motion #2:	to approve the agenda as shown in agenda_01a_0513_40GBT.pdf**

**M:	Paul Vanderlaan	S:	Stephen Bates**
Approved by voice vote without opposition (Procedural > 50%)

The Chair then resumed the review of presentation agenda_01a_0513_40GBT.pdf:

•	Mr. Chalupsky asked if anyone was attending from the press including those who would run a public blog on this meeting. Mr. Flatman noted that he was doing a 1000 word update, a status report on 40GBASE-T for Information Networks in the UK.

- 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.

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 9:31am, Mr. Chalupsky showed slides 0 through 4 patent policy from agenda_01a_0513_40GBT.pdf . Mr. Chalupsky read aloud slides 0 & 1, Mr. Pete Cibula read slide 2, and Mr. Wayne Larsen read slide 3. Mr. Chalupsky made the call for potentially essential patents at 09:36 am, and none responded. Mr. Chalupsky then completed the reading of slide #4.

Mr. Chalupsky then continued review of the presentation, referencing a previous contribution on "The Path to Working Group Ballot", by Mr. Howard Frazier (http://www.ieee802.org/3/hssg/public/nov07/frazier_02_1107.pdf).

LIAISONS
The Chair moved to liaisons, and announced that no new incoming liaisons had been received since the last meeting. The liaison response to TIA approved by the SG in last meeting was also approved by 802.3 at closing plenary:
http://www.ieee802.org/3/minutes/mar13/outgoing/IEEE_802d3_to_TIA42_0313.pdf

Response to the prior ISO/IEC JTC1 SC25 WG3 liaison will be on the 802.3 agenda at the July plenary.

MINUTES FROM THE LAST MEETING
The Chair then asked for comments or corrections to the minutes of the last meeting.

Motion #3: **to approve the minutes for the March Plenary meeting of the NGBASE-T Study Group**
(http://www.ieee802.org/3/NGBASET/public/mar13/unconfirmed_minutes_0313_NGBT.pdf)
M: Wayne Larsen   S: Bill Woodruff
Approved by voice vote without opposition (Procedural > 50%)

The Chair completed the review of the presentation agenda_01a_0513_40GBT.pdf

PRESENTATIONS
The Chair then moved to the presentations for the meeting.

Title: Size of Category 7/7A Installed Base (maguire_1_0513_40GBT.pdf)
Abstract: As a follow-up to bates_01a_0113_ngbt.pdf, the presenter used third party data to make an approximation of the size of the installed base of category 7/7A cabling. The presentation concludes that choosing a baud rate with a Nyquist frequency below 1.1 GHz would make available an installed base of approximately 7.5 - 15 million cabling drops ready to support 40GBASE-T today and approximately 11.25 – 22.5 million drops ready to support 40GBASE-T in 2016.
Presenter: Val Maguire, Siemon Company

(BREAK at 10:27 for coffee and resumed at 10:40am)

Title: Tutorial on ISO/IEC 11801-99-1 - Guidance on Balanced Cabling in Support of 40G (flatman_01_0513_40GBT.pdf)

Abstract: This is an introduction and overview of the purpose and content of the Technical Report on balanced cabling suitable for supporting 40G channels with up to 30m reach and 2 mated connectors. This guidance is being developed by ISO/IEC SC25 WG3 for IEEE 802.3bq. Future plans to develop an International standard for 40GBASE-T cabling will also be featured.

Presenter: Alan Flatman, LAN Technologies (independent)

Mr. Flatman, speaking as the liaison with SC25 WG3, invited IEEE experts to respond to himself or the officers of SC25 WG3 with comments on the current draft of the document. He also committed to post the second draft of the ISO/IEC technical report to the private area of the task force.

Title: Alien Crosstalk Test Results for a potential 40GBASE-T channel (nordin_01a_0513_40GBT.pdf)

Abstract: Building on the single channel data that Panduit presented in March, Panduit would like to share our most recent test data for a 6-around-1 channel. The focus is on testing for Alien Crosstalk as well as to show the IL, RL, NEXT, ACRF in a worst case scenario channel. Data will also be shown with a few different patch cords to show the effect that these have on the channel.

Presenter: Ron Nordin, Panduit
Co-Author: Bob Wagner, Panduit

The presenter asked for the creation of an ad hoc group to work towards a channel specification. The chair indicated that formation of ad hocs would be discussed during closing business.

Title: Noise Immunity Performance Analysis of Screened Cabling Systems (rossbach_0513_40GBT.pdf)

Abstract: Definition and Specification of Coupling Attenuation in Cabling standards and Comparison of coupling attenuation performance of various cables types

Presenter: Martin Rossbach, Nexans

Within the presentation, the presenter made reference to a presentation made in the 802.3bp group by Paul Kish which presented some similar data for UTP cabling.

Title: A Broad Market Potential Consideration for the Baseline Proposal (chalupsky_01_0513_40GBT.pdf)

Abstract: (None submitted) the presenter made it clear he was not speaking as Chair, but as a potential customer of the Task Force's deliverables. The presentation addressed several issues associated with achieving broad market potential, including support for multiple speeds of BASE-T Ethernet, including 10G and 1000BASE-T with 40GBASE-T, compatible MDI, auto negotiation, cabling, and managing the complexity (die size) of multispeed PHYs.

Presenter: David Chalupsky, Intel

(BREAK FOR LUNCH AT 12:10PM AND RESUME AT 1:35PM)

Title: Channel Performance (booth_01_0513_40GBT.pdf)
Abstract: Need for balanced trade-offs in channel performance vs. PHY cost
Presenter: Brad Booth, Dell

The presenter requested the Chair consider an ad hoc to investigate balancing the PHY and cabling cost. The group discussed many of the tradeoffs made.

Bill Woodruff assumed the role of recording secretary so Mr. Zimmerman could make the following two presentations:

Title: Impact of Board-level Considerations on 40GBASE-T Channels (zimmerman_01_0513_40GBT.pdf)
Abstract: The importance and precedence for extending the channel model inward from the MDI is discussed, as well as a short discussion of some of the technical issues to be considered. The contribution discusses prior 802.3 standards with board-level models, and suggests including at least an informative extension of the channel inward from the MDI to address potential implementation issues.
Presenter: George Zimmerman, CME Consulting/ Aquantia & Commscope
Co-Author: Paul Langner, Aquantia

Title: Importance of using scaled data as opposed to limit lines in modeling channel impacts (zimmerman_02_0513_40GBT.pdf)
Abstract: Transceiver power estimates have focused on receiver dynamic range estimates based on input power using cabling impairments. The impact of using scaled 0dB margin data versus simple limit lines is assessed as it impacts total power received for Return Loss, NEXT, and Insertion Loss. Data shows a significant advantage (4-6 dB) in using scaled return loss measurements, a lesser effect in using scaled power-sum NEXT, and minimal impact for insertion loss. FEXT is not considered, since it tends not to impact received power.
Presenter: George Zimmerman, CME Consulting / Commscope

The presenter commented the above presentation was made on the behalf of CME Consulting.

The presenter poised that a liaison or informal communication may be appropriate, to be discussed in the next plenary.

(BREAK at 3:03pm for refreshments and resumed at 3:20pm)

Mr. Zimmerman resumed his role as Recording Secretary

Title: Analysis of Cable Parameters using a 40GBASE-T end-to-end channel model (grimwood_01a_0513_40GBT.pdf)
Abstract: The impact of channel parameters on dynamic range and power requirements is presented.
Presenter: Mike Grimwood, Broadcom

Title: Future Work Plans (chalupsky_02_0513_40GBT.pdf)
Abstract: (None submitted) The presenter (the Chair), proposed a straw man for a timeline for the groups consideration, and discussion of needed contributions and possible ad hoc work.
Presenter: David Chalupsky, Intel

The presentation segued directly into the straw polls and discussion.

DISCUSSION, MOTIONS & STRAW POLLS

Straw Poll #1:

I encourage the development of a P802.3bq project timeline for consideration at the next meeting.

Yes: 23
No: 0
Don't Care: 0

It was noted there were significantly more people in the room than indicated any position.

FORMATION OF A CHANNEL MODELING AD HOC

The Chair entertained a discussion with the group as to the scope and deliverables of a channel modeling ad hoc.

During discussion, the Chair chartered an ad hoc and asked Brad Booth and Pete Cibula to co-chair it. The Scope and Deliverables to include:

- Defining a set of channel models for PHY complexity evaluation, including host channel model
- Early feedback on key parameters to cabling bodies (Can a parameter be improved? Is a relaxation a cost benefit?)

The Chair further described that ad hocs will be formed as a subgroup (of a subgroup) of 802.3 and that 802.3 rules apply, including meeting announcements, agenda, patent policy, minutes, and generally available materials.

Mr. Cibula announced that the Channel Ad Hoc would meet Friday at 9AM in the Ivy Ballroom for those who wished to participate. Mr. Chalupsky, acting as Task Force Chair, asked if there was any objection among those wishing to contribute, and no objection was voiced.

OTHER ADMINISTRATIVE BUSINESS

Future Meetings Straw Poll

Straw Poll #2:
Will you attend the July 2013 Plenary meeting in Geneva, CH?
YES!: 21 Maybe yes:6 Maybe no: 1   NO!: 2

Straw Poll #3:
Will you attend the Sept. 2013 Interim meeting in York
YES!: 15 Maybe yes:11   Maybe no: 2   NO!: 3

The Chair indicated that the ISO/IEC drafts provided by Mr. Flatman would probably be posted to the private area used by the study group.
Adjournment
Motion #4: To adjourn the meeting.
M: Wayne Larsen   S: Ron Nordin
MOTION PASSES by voice without opposition
The Meeting was adjourned at 4:42 PM.

Total attended:		35	Daily # attended:	35
IEEE P802.3bq 40GBASE-T Task Force May 2013				**5/16/2013**
Last Name	**First Name**	**Employer / Affiliation**		**Thursday**
Bates	Stephen	PMC Sierra		x
Bliss	Will	Broadcom		x
Booth	Brad	Dell		x
Brillart	Theo	Fluke Electronics		x
Chadha	Mandeep	Vitesse Semiconductors		x
Chalupsky	David	Intel		x
Cibula	Pete	Intel		x
Dabiri	Dariush	Applied Micro		x
Diab	Wael	Broadcom		x
Donahue	Curtis	UNH - IOL		x
Estes	Dave	UNH - IOL		x
Flatman	Alan	LAN Technologies		x
Grimwood	Michael	Broadcom		x
Hammond	Bernard	TE Connectivity		x
Kish	Paul	Belden		x
Larsen	Wayne	Commscope		x
Law	David	HP		x
Maguire	Valerie	Siemon, TIA		x
Mei	Richard	Commscope		x
Nordin	Ron	Panduit Corp.		x
Patel	Shashi	Brocade		x
Rannow	Randy K	APIC Corp.		x
Ressl	Michael	Hitachi Cable America		x
Rossbach	Martin	Nexans		x
Sommers	Scott	Molex		x
Sparrowhawk	Bryan	Leviton		x
Tracy	Nathan	Tyco Electronics		x
Vaden	Sterling	Optical Cable Corp.		x
Valle	Stefano	ST Microelectronics		x
Vanderlaan	Paul	Nexans		x
Wagner	Bob	Panduit Corp.		x
Wang	Xiaofeng	Qualcomm		x
Woodruff	Bill	Broadcom		x
Wu	Peter	Marvell		x
Zimmerman	George	CME / Commscope, Aquantia		x