Unapproved Minutes
IEEE 802.3bm 40 Gb/s and 100 Gb/s Fiber Optic Task Force
Interim meeting
May 14-15, 2013
Victoria, BC, Canada

Prepared by: Kapil Shrikhande

May 14, 2013

The meeting was called to order at 8:00 a.m. on May 14.
Kapil Shrikhande volunteered as Recording Secretary.

Round of introductions

All meeting materials for the May 2013 plenary meeting can be found at:
http://www.ieee802.org/3/bm/public/may13/index.html

Agenda and General Information presentation
By: Dan Dove, Chair
See: http://www.ieee802.org/3/bm/public/may13/dove_01_0513_optx.pdf

The Chair asked if there was any opposition to approving the agenda for the meeting. The agenda was approved without any opposition.

The Chair asked if there was any opposition to approving the minutes from the March 2013 Task Force meeting. T he March 2013 meeting minutes were approved without any opposition.

The Task Force decorum was presented.

The Task Force was reminded that photographs or recordings are not allowed without permission.

The Chair asked if there were any reporters present or if someone present might report on the activities of the meeting. Dale Murray stated he will use the results from the meeting in his role at Lightcounting, a Market research firm. The Chair reminded the group that detailed log of the meeting proceedings including actions by specific participants should not be reported on publicly.

The Chair read the IEEE patent policy. The Chair made a call for potentially essential patents. No one responded to the call for patents.

The rest of the agenda presentation was covered.

Start of technical presentations

Presentation # 1

Title: SMF Ad Hoc report

By: Pete Anslow, Ciena (SMF Ad Hoc Chair)
See: http://www.ieee802.org/3/bm/public/may13/anslow_01_0513_optx.pdf

Presentation # 2

Title: Editor's report

By: Pete Anslow, Ciena (Task Force Chief Editor)
See: http://www.ieee802.org/3/bm/public/may13/anslow_02_0513_optx.pdf

Presentation # 3

Title: Higher Order Modulation for Optical PMDs

By: Gary Nicholl, Cisco
See: http://www.ieee802.org/3/bm/public/may13/nicholl_01_0513_optx.pdf

Presentation # 4

Title: 100Gb/s SMF PMDs

By: Chris Cole, Finisar
See: http://www.ieee802.org/3/bm/public/may13/cole_01a_0513_optx.pdf

Presentation # 5

Title: PAM8 Draft v0.1 Summary

By: Arash Farhood, Cortina
See: http://www.ieee802.org/3/bm/public/may13/farhood_01a_0513_optx.pdf

Break at 9:55 a.m.
Reconvened at 10:12 a.m.

Presentation # 6

Title: 100G Parallel SMF Skew

By: John Petrilla, Avago
See: http://www.ieee802.org/3/bm/public/may13/petrilla_01_0513_optx.pdf

Presentation # 7

Title: 100G PSM4 Link Model & Results Update

By: John Petrilla, Avago
See: http://www.ieee802.org/3/bm/public/may13/petrilla_02_0513_optx.pdf

Presentation # 8

Title: PSM4: Near-Term Optimal, Long-Term Building Block

By: Jack Jewell, Commscope
See: http://www.ieee802.org/3/bm/public/may13/jewell_01_0513_optx.pdf

Presentation # 9

Title: PSM4 Broad Market Potential

By: Brian Welch, Luxtera
See: http://www.ieee802.org/3/bm/public/may13/welch_01_0513_optx.pdf

Presentation # 10

Title: 500 m SMF PSM4 Baseline Proposal Update

By: Jon Anderson, Oclaro
See: http://www.ieee802.org/3/bm/public/may13/anderson_01_0513_optx.pdf

Presentation # 11

Title: PSM4 vs. WDM: A Broader Silicon Photonics Perspective

By: Arlon Martin, Kotura
See: http://www.ieee802.org/3/bm/public/may13/martin_01_0513_optx.pdf

Break for Lunch at 12:10 p.m.
Reconvened 1:15 p.m.

Presentation # 12

Title: CWDM Uncooled Solution for 500m SMF: Cost Saving resulting from uncooled solution in CWDM at Product Maturity

By: Tek Ming Shen, Huawei
See: http://www.ieee802.org/3/bm/public/may13/shen_01_0513_optx.pdf

Presentation # 13

Title: 100G PMD Cost Comparison from a Free Space Optical Platform

By: Osa Mok, Innolight
See: http://www.ieee802.org/3/bm/public/may13/mok_01a_0513_optx.pdf (revised file uploaded post-presentation)

The original submission titled *mok_01_0513_optx.pdf* had 2 slides that violated the IEEE policy on cost discussion, which was brought to the attention of the Chair during the presentation. The original file was modified and uploaded as mok_01a_0513_optx.pdf.

Presentation # 14

Title: 100G CWDM Link Model for DM DFB Lasers

By: John Petrilla, Avago
See: http://www.ieee802.org/3/bm/public/may13/petrilla_03_0513_optx.pdf

Presentation # 15

Title: 100GBASE-CWDM Baseline Proposal

By: Xueyan Zheng, Huawei
See: http://www.ieee802.org/3/bm/public/may13/vlasov_01a_0513_optx.pdf

Break at 2:55 p.m.
Reconvened at 3:20 p.m.

Presentation # 16

Title: Technical feature of Optical DMT transmission system

By: Tomoo Takahara, Fujitsu Labs
See: http://www.ieee802.org/3/bm/public/may13/takahara_01_0513_optx.pdf

Presentation # 17

Title: Outline of DMT draft -DMT Baseline proposal-

By: Toshiki Tanaka, Fujitsu Labs
See: http://www.ieee802.org/3/bm/public/may13/tanaka_01_0513_optx.pdf

The presentations scheduled for the day being complete, the floor was opened for discussion and straw polls.

Straw Poll # 1
I would support a change in CAUI naming to change all instances of "CAUI" that mean either CAUI-10 or CAUI-4 to be "CAUI-n".

Y: 74
N: 2
A: 12
Room count: 97

Straw poll # 2
I would support a baseline proposal for a SMF PMD based on:
a) CWDM
b) C-BAND
c) DMT
d) PSM4
e) PAMn
f) none of the above - rely on LR4 with CAUI-4.

Pick one of the above only
a) 30 b) 0 c) 7 d) 26 e) 7 f) 16
Room count = 97

Straw poll # 3
I would support a baseline proposal for a SMF PMD based on:
a) CWDM
b) C-BAND
c) DMT
d) PSM4
e) PAMn
f) none of the above - rely on LR4 with CAUI-4.

Chicago Rules
a) 54 b) 1 c) 25 d) 51 e) 31 f) 47

Straw poll # 4
I would NOT support a baseline proposal for a SMF PMD based on:
a) CWDM
b) C-BAND
c) DMT
d) PSM4
e) PAMn
f) none of the above - rely on LR4 with CAUI-4.

Chicago Rules
a) 24 b) 50 c) 34 d) 30 e) 36 f) 4

Straw poll # 5
Do you believe this proposal is technically feasible:
a) CWDM Y: 70 N: 8
b) DMT Y: 27 N: 22
c) PSM4 Y: 79 N: 0
d) PAMn Y: 24 N: 38

Straw poll # 6
Do you believe this proposal is economically feasible:
a) CWDM Y: 47 N: 15
b) DMT Y: 17 N: 31
c) PSM4 Y: 54 N: 22
d) PAMn Y: 22 N: 34
e) LR4 Y: 31 N: 32

Straw poll # 7
Do you believe this proposal has broad market potential:
a) CWDM Y: 41 N: 24
b) DMT Y: 24 N: 26
c) PSM4 Y: 33 N: 38
d) PAMn Y: 25 N: 26
e) LR4 Y: 32 N: 21

The Chair announced that there will be a review of the 802.3bm Draft 0.5 from 6 to 8 p.m. in the same room. The review will be run by Pete Anslow, Chief Editor

The meeting was recessed for the day at 4:25 p.m.

May 15, 2013

The meeting resumed at 8 a.m.
Round of introductions

The Chair presented the agenda and general information
http://www.ieee802.org/3/bm/public/may13/dove_01_0513_optx.pdf

The Chair sought the Task Force permission to present an analysis of the straw poll data from the first day of the meeting (May 14th). There was no opposition to this. The file was uploaded as dove_02_0513_optx

The Task Force decorum was presented.
The Task Force was reminded that photographs or recordings are not allowed without permission.
The Chair asked if there were any reporters or if someone present might report on the activities of the meeting. Dan Dove indicated that he may discuss the progress of the Task Force in broad terms in his role as a Chair.

The Chair read the IEEE patent policy. The Chair made a call for potentially essential patents. No one responded to the call for patents.

Start of technical presentations

Presentation # 18
Title: MMF ad hoc report
By: Jonathan King, Finisar
See: http://www.ieee802.org/3/bm/public/may13/king_01_0513_optx.pdf

Presentation # 19
Title: Cost, power, size differences of proposed MMF PMDs: 20 m un-retimed module vs 100 m retimed module (baseline)
By: Jonathan King, Finisar
See: http://www.ieee802.org/3/bm/public/may13/king_02_0513_optx.pdf

Presentation # 20
Title: MMF reach proposals for OM4 and OM3
By: Paul Kolesar, Commscope
See: http://www.ieee802.org/3/bm/public/may13/kolesar_01_0513_optx.pdf

Presentation # 21
Title: Simulating impairments for an MMF PHY with FEC
By: Piers Dawe, IPtronics
See: http://www.ieee802.org/3/bm/public/may13/dawe_01_0513_optx.pdf

Presentation # 22
Title: 100G MMF: 70m OM3 & 100m OM4 Link Model Comparison
By: John Petrilla, Avago
See: http://www.ieee802.org/3/bm/public/may13/petrilla_04_0513_optx.pdf

Presentation # 23
Title: Feasibility of Unretime cPPI-4 and How to Proceed
By: Ali Ghiasi, Broadcom
See: http://www.ieee802.org/3/bm/public/may13/ghiasi_01_0513_optx.pdf

Break at 9:50 a.m.
Reconvened at 10:20 a.m.

Presentation # 24
Title: CAUI-4 ad hoc report
By: Ryan Latchman, Mindspeed (CAUI-4 Ad Hoc Chair)
See: http://www.ieee802.org/3/bm/public/may13/latchman_01_0513_optx.pdf

Presentation # 25
Title: A System's Perspective: CAUI-4 Chip-to-Chip
By: Elizabeth Kochuparambil, Cisco
See: http://www.ieee802.org/3/bm/public/may13/rabinovich_01_0513_optx.pdf (revised file with additional supporters was presented, and uploaded after the presentation was made)

Presentation # 26
Title: A CAUI-4 Chip-to-Chip Link Study: Presentation 3
By: Mike Li, Altera
See: http://www.ieee802.org/3/bm/public/may13/li_01a_0513_optx.pdf (revised file with technical changes was presented and uploaded post presentation)

Presentation # 27
Title: Simulations and Methodology Addressing CAUI-4 C2C
By: Ali Ghiasi, Broadcom
See: http://www.ieee802.org/3/bm/public/may13/ghiasi_02_0513_optx.pdf

Break for lunch at 11:45 a.m.
Reconvened at 1:15 p.m.

Presentation # 28
Title: CAUI-4 BER target
By: Ryan Latchman, Mindspeed
See: http://www.ieee802.org/3/bm/public/may13/latchman_02_0513_optx.pdf (revised file with editorial changes was uploaded after the presentation was made)

Presentation # 29
Title: Straw Poll Analysis
By: Dan Dove, Applied Micro (Task Force Chair)
See: http://www.ieee802.org/3/bm/public/may13/dove_02_0513_optx.pdf

The floor was opened for straw polls and motions

Straw Poll # 8
Would you be supportive of the investigation to include 20dB insertion loss channel using a tradeoff methodology such as COM (Channel Operating Margin) in the CAUI-4 chip-to-chip specification?
Y: 59
N: 0
A: 40
Room count: 107

Straw Poll #9
Would you be supportive to further investigate the transmitter trade-off as per ghiasi_02_0513_optx in the CAUI-4 ad hoc.
Y: 19
N: 0
A: 71

Break at 2:40 p.m.
Reconvened at 3:10 p.m.

Motion # 1
Motion: Direct the editor to change all instances of the generic "CAUI" to be "CAUI-n" for D1.0
Moved: Pete Anslow
Second: Steve Trowbridge
Technical (≥75% required)
Y: 84 N: 0 A: 12
Passes

Motion #2
Motion: Direct the editor to change 100GBASE-SR4 OM3 and OM4 reach numbers to 70 m and 100 m respectively for D1.0
Moved: Jonathan King
Second: John Petrilla
Technical (≥75% required)
Y: 78 N: 1 A: 18
Passes

Motion #3
Motion: Direct the editor to change CAUI-4 objective Bit Error Ratio (BER) as per slide 4 of latchman_02_0513_optx
Moved: Ryan Latchman
Second: Mike Li
Technical (≥75% required)
Y: 45 N: 14 A: 40
Passes

Motion # 4
Motion: Direct the editor to produce IEEE P802.3bm draft D1.0 from the adopted baselines and begin Task Force Review
Moved: Pete Anslow
Second: Kapil Shrikhande
Technical (≥ 75% required)
Y: 86 N: 0 A: 8
Passes

Motion #5
Motion: Direct the SMF ad hoc to continue working on SMF proposals and document review for potential

draft inclusion in July 2013.
Moved: Dan Dove
Second: Jonathan King
Technical (≥ 75% required)
Y: N: A:

This motion was withdrawn

Motion #6
Motion: Move to adopt PAM-8 baseline proposal as described in farhood_01a_0513_optx
Moved: Scott Kipp
Second: Andy Moorwood
Technical (≥ 75% required)
Y: 12 N: 74 A: 17
Fails

Motion 6 was voted upon after motion #7 failed

Motion #7
Motion: Move to table motion # 6
Moved: Arash Farhood
Seconded: Ali Ghiasi
> 50% required
Y: 23 N: 58 A: 8
Fails

Motion #8
Motion: Move to adopt DMT baseline proposal as described in tanaka_01_0513_optx
Moved: Scott Kipp Second: Andy Moorwood
Technical (≥ 75% required)
Y: 17 N: 62 A: 27
Fails

Motion 8 was voted upon after motion #9 failed

Motion #9
Motion: Move to table motion # 8
Moved: Isono
Seconded: Hamano
> 50% required
Y: 28 N: 63 A: 13
Fails

Motion #10
Motion: Direct the SMF ad hoc to continue working on SMF proposals and document review for potential draft inclusion in July 2013.
Moved: John Petrilla
Second: Scott Kipp
Technical (≥ 75% required)

Y: 59 N: 22 A: 21
Fails

Motion # 10 was voted upon after motion #11 failed

Motion #11
Motion: move to table motion # 10
Moved: Arash Farhood
Seconded: Will Bliss
> 50% required
Y: 35 N: 41 A: 22
Fails

Motion #12
Motion: Move to adopt PSM4 baseline proposal as described in anderson_01_0513_optx
Moved: Arash Farhood
Second: Will Bliss
Technical (≥ 75% required)
Y: 38 N: 46 A: 15
Fails

Motion #13
Motion: Move to adopt CWDM baseline proposal as described in vlasov_01a_0513_optx
Moved: Arash Farhood
Second: Will Bliss
Technical (≥ 75% required)
Y: 31 N: 52 A: 19
Fails

Motion #14
Motion: move to reconsider motion # 10
Moved: Arash Farhood (Chair confirmed that the mover voted in the prevailing side on motion #10)
Seconded: Pete Anslow
> 50% required
Y: 69 N: 10 A: 20
Passes

Motion #15
Motion: Continue working on the SMF proposals and document review for potential draft inclusion in July 2013.
Moved: John Petrilla
Second: Scott Kipp
Technical (≥ 75% required)
Y: 71 N: 5 A: 22
Passes

Motion #16
Motion: move to table motion # 15
Moved: Arash Farhood

Seconded: Will Bliss
> 50% required
Y: 25 N: 44 A: 17
Fails

The final presentation on the agenda, the Editor's closing report was subsequently covered

Presentation # 30
Title: Editor's Closing Report
By: Pete Anslow, Ciena
See: http://www.ieee802.org/3/bm/public/may13/anslow_03_0513_optx.pdf

Seeing the agenda completed, the meeting was adjourned by the Chair at 5:22 p.m.

IEEE 802.3bm May 2013 interim meeting attendance list

Last Name	First Name	Employer	Affiliation	14-May	15-May
Abbas	Ghani	Ericsson	Ericsson	Y	Y
Anslow	Pete	Ciena	Ciena	Y	Y
Baldwin	Thananya	Ixia	IXIA	Y	Y
Bates	Stephen	PMC-Sierra	PMC Sierra	Y	Y
Bernstein	Gary	Leviton	Leviton	Y	Y
Bhatt	Vipul	Cisco	Cisco	Y	Y
Bliss	Will	Broadcom		Y	
Breuer	Dirk	Deutsche Telekom	Deutsche Telekom	Y	Y
Brown	Dave	Semtech	Semtech	Y	Y
Carroll	Martin	Verizon	Verizon	Y	Y
Chalupsky	David	Intel			Y
Cole	Chris	Finisar	Finisar	Y	Y
Conroy	Keith	Multi-Phy	Multi-Phy	Y	Y
Dawe	Piers	IPtronics	IPtronics	Y	Y
Farhood	Arash	Cortina Systems		Y	
Filip	Jan	Maxim Int. Prod	LAN Technologies	Y	
Ghiasi	Ali	Broadcom			Y
Green	Malcolm	Binoptics	Binoptics	Y	Y
Gustlin	Mark	XILINX		Y	Y
Hamano	Hiroshi	Fujitsu Labs	Fujitsu Labs	Y	Y
Irwin	Scott	Mosys		Y	Y
Isono	Hideki	Fujitsu Optical Components	Fujitsu Optical Components	Y	Y
Issenhuth	Tom	Microsoft	Microsoft	Y	Y
Jackson	Kenneth	Sumitomo	Sumitomor	Y	Y
Jewell	Jack	Independent	Commscope	Y	Y
Jiang	Wenbin	Cosemi	Cosemi	Y	Y
King	Jonathan	Finisar		Y	Y
Kipp	Scott	Brocade		Y	Y
Kojima	Keisuke	Mitsubishi Electric	Mitsubishi	Y	Y
Kolesar	Paul	Commscope		Y	Y
Kono	Masahi	Hitachi	Hitachi	Y	Y
Larsen	Wayne	Commscope			Y
Latchman	Ryan	Mindspeed	Mindspeed	Y	Y
Law	David	HP	HP	Y	
Lewis	Dave	JDSU	JDSU	Y	Y
Li	Mike	Altera	Altera	Y	Y
Lingle	Robert	OFS	OFS	Y	Y

Liu	Hai-Feng	Intel	Intel		Y
Lutz	Sharon	US Conec Ltd	US Conec Ltd	Y	Y
Maki	Jeffery	Juniper	Juniper	Y	Y
Malkiman	Yonatan	Mellanox	Mellanox	Y	Y
Martin	Arlon	Kotura	Kotura	Y	Y
McDonough	John	NEC America		Y	Y
Mei	Richard	Commscope	Commscope	Y	Y
Meyer	Jeffrey	Centellax			
Misek	Brian	Avago			Y
Moorwood	Andy	Infinera	Infinera	Y	Y
Murray	Dale	Lightcounting	Lightcounting	Y	Y
Muth	Karl	Texas Instruments	TI	Y	Y
Nicholl	Gary	Cisco			Y
Nielson	Torben	Acacia Communications	Acacia	Y	Y
Nishihara	Susumu	NTT	NTT		Y
Nolan	John	Qlogic	Qlogic	Y	
Nordin	Ron	Panduit	Panduit		Y
Ofelt	David	Juniper	Juniper	Y	Y
Ogura	Ichiro	PETRA	PETRA	Y	Y
Patel	Pravin	IBM			Y
Pepper	Jerry	Ixia	Ixia	Y	
Perrie	Randy	Onechip Photonics	One Chip	Y	Y
Petrilla	John	Avago Technologies			Y
Pimpinella	Rick	Panduit Corp	Panduit Corp	Y	Y
Rabinovich	Rick	Alcatel Lucent	Alcatel Lucent	Y	Y
Ressl	Michael	Hitachi Cable America	Hitachi Cable America	Y	Y
Salunke	Vineet	Cisco	Cisco	Y	Y
Sambasivan	Sam	AT&T	AT&T	Y	Y
Shen	Tek-Ming	Huawei Technologies	Huawei Technologies	Y	
Sommers	Scott	Molex	Molex	Y	Y
Song	Xiaolu	Huawei	Huawei Technologies	Y	Y
Stassar	Peter	Huawei	Huawei	Y	Y
Stevens	Daniel	Fujitsu Semiconductor Europe	Fujitsu	Y	Y
Szczepanek	Andre	Inphi	Inphi	Y	Y
Szeto	William	Xtera	Xtera	Y	Y
Tajima	Akio	NEC Corporation	NEC	Y	Y
Takahata	Kiyoto	NTT	NTT	Y	Y
Tanaka	Toshiki	Fujitsu Laboratories	Fujitsu Laboratories	Y	Y
Tawa	Katsuhisa	Sumitomo Electric	Sumitomor	Y	Y
Teipen	Brian	ADVA Optical	ADVA Optical	Y	Y
Tomoo	Takahara	Fujitsu Lab	Fujitsu Lab	Y	Y

Tooyserkani	Pirooz	Cisco		Y	Y
Tracy	Nathan	TE Connectivity	TE Connectivity	Y	Y
Tremblay	Francois	Semtech	Semtech	Y	Y
Trowbridge	Steve	Alcatel Lucent	Alcatel Lucent	Y	Y
Ulrichs	Ed	Sourcephotonics	Sourcephotonics	Y	Y
Warland	Tim	Applied Micro	Applied Micro	Y	Y
Warren	David	HP	HP	Y	Y
Way	Winston	Neophotonics	Neophotonics	Y	Y
Welch	Brian	Luxtera	Luxtera	Y	Y
Wong	CK	FCI Mergeoptics	FCI USA LLC	Y	Y
Xinjuan	Wans	Huawei	Huawei	Y	Y
Xu	Yu	Huawei	Huawei	Y	Y
Xueyan	Zheng	Huawei	Huawei	Y	
Zeng	Li	Huawei	Huawei	Y	Y
Rotolo	Salvatore	ST Microelectronics	ST Microelectronics	Y	Y
Ugolini	Alan	US Conec	US Conec	Y	Y
Wong	Henry	Huawei	Huawei	Y	Y
Ran	Adee	Intel	Intel	Y	
Mok	Osa	Innolight Technology		Y	Y
Tryson	Mike	TE Connectivity		Y	Y
Docking	Stephen	PMC-Sierra		Y	Y
Patel	Shashi	Brocade	Brocade	Y	Y
Shan	Peijun	Acacia Communications		Y	
Piehler	David	Neophotonics		Y	
Parthasarathy	Vasudevan	Broadcom			Y
Tailor	Bharat	Semtech Corp			Y

Number of attendees who signed the sheet on at least one day = 104