

Unapproved Minutes
IEEE 802.3bm 40 Gb/s and 100 Gb/s Fiber Optic Task Force
Interim meeting
Sept 26-28, 2012
Geneva, CH

Prepared by: Kapil Shrikhande

Sept 26, 2012

The meeting was called to order at 2:30 p.m., Wed Sept 26, 2012 by Wael Diab, Vice Chair IEEE 802.3. Kapil Shrikhande volunteered as Recording Secretary.

Wael Diab indicated that he would like to appoint Dan Dove as Task Force Chair.

Motion to confirm Dan Dove as Task Force Chair

(>=75%)

M: Steve Trowbridge

S: Brad Booth

Yes: 69

No: 0

Abstain: 0

Motion Passes

Dan Dove confirmed as Task Force Chair.

Dan Dove returned to the room to chair the remainder of the meeting.

Round of introductions

All meeting materials for the Sept 2012 Geneva, CH interim meeting can be found at:

<http://www.ieee802.org/3/bm/public/sep12/index.html>

Agenda and General Information presentation

By: Dan Dove, Chair

See: dove_01b_0912_optx.pdf

The Chair asked if there was any opposition to approving the agenda for the meeting. There was no opposition.

The Chair asked if there was any opposition to approving the minutes from the July 2012 Next Generation 40G and 100G Optical Ethernet Study Group meeting. There was no opposition.

The Chair presented the Task Force decorum.

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. Scott Kipp stated he may blog about the meeting for the Ethernet Alliance.

The Chair read the IEEE patent policy from slides in the agenda presentation. The Chair made a call for potentially essential patents. No one responded to the call for patents.

The Proposed Timeline for the Task Force was presented for review. No questions received.

Start of technical presentations

Presentation # 1

Title: SMF Ad Hoc report

By: Pete Anslow, Ciena

See: http://www.ieee802.org/3/bm/public/sep12/anslow_01_0912_optx.pdf

Presentation # 2

Title: 100G Next Gen Optics MMF ad hoc meeting review

By: Jonathan King, Finisar

See: http://www.ieee802.org/3/bm/public/sep12/king_01_0912_optx.pdf

Presentation # 3

Title: EEE status in 802.3bj

By: Hugh Barrass, Cisco

See: http://www.ieee802.org/3/bm/public/sep12/barrass_01_0912_optx.pdf

Presentation # 4

Title: EEE for P802.3bm Objective Proposal

By: Mike Bennett, LBNL

See: http://www.ieee802.org/3/bm/public/sep12/bennett_01_0912_optx.pdf

Break at 3:55 p.m.

Reconvened at 4:10 p.m.

Presentation # 5

Title: 802.3bj FEC Overview and Status

By: Mark Gustlin, Xilinx

See: http://www.ieee802.org/3/bm/public/sep12/gustlin_01_0912_optx.pdf

Presentation # 6

Title: FEC Tradeoffs and Analyses for 100G Optical Networking

By: Ali Ghiasi, Broadcom

See: http://www.ieee802.org/3/bm/public/sep12/wang_01_0912_optx.pdf

The Chair opened the floor for straw polls.

Straw Poll # 1

Do you support defining optional Energy-Efficient Ethernet operation for the optical PHYs defined by 802.3bm?

Yes: 54

No: 0

Abstain: 15

Straw Poll #2

Do you support defining optional Energy-Efficient Ethernet operation for existing optical PHYs defined by 802.3ba?

Yes: 39

No: 1

Abstain: 27

There was a potential for miscount on straw poll # 1 due to one row being counted twice. But a re-count was deemed unnecessary due to the large level of support seen.

Recess for the day at 5:20 p.m.

Sept 27, 2012

Meeting resumed by the Chair at 8:30 a.m.

The chair presented the agenda for the day.

The chair covered Task Force decorum and ground rules.

Chair made the call for potentially essential patents. No response from the room.

Presentation # 7

Title: CAUI-4 Consensus Building, Specification Discussion

By: Ryan Latchman, Mindspeed

See: http://www.ieee802.org/3/bm/public/sep12/latchman_01_0912_optx.pdf

Presentation # 8

Title: CAUI4 and OIF CEI-28G-VSR

By: Tom Palkert, Xilinx

See: http://www.ieee802.org/3/bm/public/sep12/palkert_02_0912_optx.pdf

Presentation # 9

Title: Options and Simulation of CAUI-4

By: Ali Ghiasi, Broadcom

See: http://www.ieee802.org/3/bm/public/sep12/ghiasi_02_0912_optx.pdf

Presentation # 10

Title: 4x25G "Asymmetric" electrical interfaces proposal

By: Gary Nicholl, Cisco

See: http://www.ieee802.org/3/bm/public/sep12/mazzini_01_0912_optx.pdf

Presentation # 11

Title: 10GE Link Model Extensions

By: John Petrilla, Avago

See: http://www.ieee802.org/3/bm/public/sep12/petrilla_01a_0912_optx.pdf

Presentation # 12

Title: Coordinated Proposal for 100GBASE-SR4, 100GBASE-UR4, CPPI-4 and CAUI-4

By: Piers Dawe, Iptronics

See: http://www.ieee802.org/3/bm/public/sep12/dawe_01a_0912_optx.pdf

Presentation # 13

Title: 100G SR4 & RS(528, 514, 7, 10) FEC

By: John Petrilla, Avago

See: http://www.ieee802.org/3/bm/public/sep12/petrilla_02a_0912_optx.pdf

Break at 11:50 a.m.

Reconvened at 1 p.m.

Presentation # 14

Title: Recovering a Common MMF Link Model

By: Robert Lingle Jr., OFS

See: http://www.ieee802.org/3/bm/public/sep12/lingle_01_0912_optx.pdf

Presentation # 15

Title: Clarifying Issues Related to Spreadsheet Model using Full Link Simulation for 25G on MMF

By: Kasyapa Balemarthy, OFS

See: http://www.ieee802.org/3/bm/public/sep12/balemarthy_01_0912_optx.pdf

Presentation # 16

Title: Discrete Multi-tone Technology for 100G Ethernet (100GbE)

By: Toshiki Tanaka, Fujitsu Laboratories

See: http://www.ieee802.org/3/bm/public/sep12/tanaka_01_0912_optx.pdf

There was a request from Tom Palkert to withdraw his presentation palkert_01_0912_optx. The request was made because the author said he was able to incorporate his material into a following presentation anderson_01a_0912_optx which he supported.

Presentation # 17

Title: 100G PSM4 & RS(528, 514, 7, 10) FEC

By: John Petrilla, Avago

See: http://www.ieee802.org/3/bm/public/sep12/petrilla_03a_0912_optx.pdf

Presentation # 18

Title: 100GBase-PSM4 Optical Budget - Working Consensus View

By: Jon Anderson, Oclaro

See: http://www.ieee802.org/3/bm/public/sep12/anderson_01a_0912_optx.pdf

Break at 2:55 p.m.
Reconvened at 3:15 p.m.

Presentation # 19

Title: Kotura Analysis: WDM PICs improve cost over LR4
By: Arlon Martin, Kotura
See: http://www.ieee802.org/3/bm/public/sep12/martin_02_0912_optx.pdf

Presentation # 20

Title: WDM C-Band Recommendation for 100G nR4
By: Arlon Martin, Kotura
See: http://www.ieee802.org/3/bm/public/sep12/martin_01_0912_optx.pdf

Presentation # 21

Title: Advanced Modulation for Next Gen 100GbE SMF PMD
By: Gary Nicholl, Cisco
See: http://www.ieee802.org/3/bm/public/sep12/nicholl_01_0912_optx.pdf

Presentation # 22

Title: Optimal Unipolar PAM Solutions for 100G SMF link from Channel Capacity Perspective
By: Arash Farhood, Cortina
See: http://www.ieee802.org/3/bm/public/sep12/farhood_01_0912_optx.pdf

Presentation # 23

Title: Update on Performance Studies of 100 Gigabit Ethernet Enabled by Advanced Modulation Formats
By: Jonathan Ingham, University of Cambridge
See: http://www.ieee802.org/3/bm/public/sep12/wei_01_0912_optx.pdf

Recess for the day at 6 p.m.

Sept 28, 2012

Meeting resumed at 9:30 a.m.
The Chair announced that he is appointing Kapil Shrikhande as Vice-Chair of the Task Force.
Round of introductions

The Chair presented the agenda for the day.
The Chair covered Task Force decorum and ground rules.

The Chair made a call for potentially essential patents. No one responded.

Presentation # 24

Title: PAM-N Comparison
By: Arash Farhood, Cortina
See: http://www.ieee802.org/3/bm/public/sep12/bhatt_01a_0912_optx.pdf

Presentation # 25

Title: Investigation of 100GbE Based on PAM-4 and PAM-8

By: Ali Ghiasi, Broadcom

See: http://www.ieee802.org/3/bm/public/sep12/ghiasi_01a_0912_optx.pdf (edited version uploaded post presentation)

Presentation # 26

Title: PAM-8 Eyes at 32 Gsym (96 Gbps)

By: David Lewis, JDSU

See: http://www.ieee802.org/3/bm/public/sep12/lewis_01_0912_optx.pdf

End of technical presentations

Break at 11:55 a.m.

Reconvened at 1:15 p.m.

The Chair opened the floor for motions and discussions

Motions

Motion#1

Adopt the project schedule as shown on slide 26 in dove_01b_0912_optx

Mover: Kapil Shrikhande Seconded: Peter Stassar

Procedural > 50%

Yes: 50 No: 0 Abstain: 0

Passes

Motion#2

Move to adopt the proposal in slides 3 to 8 of anslow_01_0912_optx.pdf as the baseline for “a 40 Gb/s PHY for operation over at least 40 km of SMF” (40GBASE-ER4)

Mover: Pete Anslow Seconded: Jon Anderson

Technical $\geq$ 75%

Yes: 31 No: 5 Abstain: 13

Passes

Motion#3

Adopt the following objective: Specify optional fast-wake Energy Efficient Ethernet (EEE) for 40 Gb/s and 100 Gb/s operation over fiber optic cables.

Mover: Mike Bennett Seconded: Pete Anslow

Technical $\geq$ 75%

Yes: 16 No: 6 Abstain: 28

Fails

The Chair asked the Task Force if there were any further motions or straw-polls. There were none.

The Chair then proceeded to announce the Task Force Editorial team.

Pete Anslow: Chief Editor, and Editor for SMF clauses
Jonathan King: Editor for MMF clauses
Ryan Latchman: Editor for Electrical Interfaces clauses

Dan Dove also announced that the 3 Editors will continue in their role as Chairs of the 3 ad-hocs that were started during Study Group phase: the SMF ad-hoc, the MMF ad-hoc and the Electrical ad-hoc.

Motion to adjourn

Moved: Mike Dudek

Passes by voice vote

IEEE 802.3bm September 2012 interim meeting attendance list

Last Name	First Name	Affiliation	26-Sep	27-Sep	28-Sep
Abbas	Ghani	Ericsson	Y	Y	Y
Anderson	Jon	Opnext	Y	Y	Y
Anslow	Pete	Ciena	Y	Y	Y
Baldwin	Thananya	Ixia	Y		
Balemarty	Kasyapa	OFS	Y	Y	Y
Barrass	Hugh	Cisco		Y	
Bennett	Mike	LBNL	Y		
Bergey	Chris	Luxtera	Y	Y	Y
Bhatt	Vipul	Cisco	Y	Y	Y
Bliss	Will	Broadcom	Y	Y	
Booth	Brad	Dell	Y		
Braun	Ralf-Peter	Deutsche Telekom	Y	Y	Y
Brown	Matt	Applied Micro			Y
Chalupsky	David	Intel	Y		
Choudhury	Mabud	Commscope	Y		
Cole	Chris	Finisar	Y	Y	Y
Cui	Kai	Huawei	Y	Y	Y
Dawe	Piers	IPtronics		Y	Y
Dove	Dan	Applied Micro	Y	Y	Y
Dudek	Mike	Qlogic		Y	Y
Farhood	Arash	Cortina Systems	Y	Y	Y
Flatman	Alan	LAN Technologies	Y	Y	Y
Forbes	Harry	Nexans Inc	Y	Y	Y
Ghiasi	Ali	Broadcom	Y	Y	Y
Gustlin	Mark	XILINX	Y	Y	
Hall	Eric	Aurion	Y	Y	Y

Hamano	Hiroshi	Fujitsu Labs	Y	Y	Y
Hidaka	Yasuo	Fujitsu Laboratories		Y	Y
Huff	Lisa	Discerning Analytics	Y	Y	Y
Ingham	Jonathan	University of Cambridge	Y	Y	Y
Isono	Hideki	Fujitsu Optical Components	Y	Y	Y
Issenhuth	Tom	Microsoft	Y	Y	Y
Jewell	Jack	Independent	Y	Y	Y
Jiang	Wenbin	Cosemi	Y		
Kim	Yong	Broadcom	Y		
Kimmtli	Myles	Emuley			Y
King	Jonathan	Finisar	Y	Y	Y
Kipp	Scott	Brocade	Y	Y	Y
Kolesar	Paul	Commscope	Y	Y	Y
Larsen	Wayne	Commscope	Y		
Latchman	Ryan	Mindspeed	Y	Y	
LeCheminant	Greg	Agilent Technologies	Y	Y	Y
Lewis	Dave	JDSU	Y	Y	Y
Li	Xuming	Huawei	Y		
Lingle	Robert	OFS	Y	Y	Y
Maki	Jeffery	Juniper	Y	Y	Y
Marris	Arthur	Cadence Design	Y	Y	Y
Martin	Arlon	Kotura	Y	Y	Y
Masuda	Takeo	OITDA	Y		
Matsuda	Shougo	Hitachi	Y		
McDonough	John	NEC America	Y	Y	Y
Mei	Richard	Commscope	Y		
Moorhead	Andy	Infinera	Y	Y	Y
Muth	Karl	Texas Instruments	Y	Y	
Nakamoto	Ed	Spirent	Y	Y	Y
Nicholl	Gary	Cisco		Y	Y
Nielsen	Allan	TE Connectivity	Y	Y	
Nishihara	Susumu	NTT	Y	Y	Y
Nowell	Mark	Cisco	Y	Y	Y
Ofelt	David	Juniper	Y	Y	Y
Palkert	Tom	Xilinx, Molex, Luxtera	Y	Y	
Pepper	Jerry	Ixia	Y		
Petrilla	John	Avago Technologies	Y	Y	Y
Powell	Scott	Clariphy	Y		
Rabinovich	Rick	Alcatel Lucent	Y	Y	Y
Sela	Oren	Mellanox	Y	Y	Y
Sesiagalli	Flavo	Coilcraft	Y		

Shrikhande	Kapil	Dell	Y	Y	Y
Sparacin	Daniel	Aurrion	Y	Y	Y
Stassar	Peter	Huawei	Y	Y	Y
Stevens	Daniel	Fujitsu Semiconductor Europe	Y	Y	Y
Sugawa	Jun	Hitachi	Y		
Suzuki	Ken-Ichi	NTT	Y	Y	
Swanson	Steve	Corning Inc	Y	Y	
Szczepanek	Andre	Inphi	Y	Y	Y
Tajima	Akio	NEC	Y		
Takahata	Kiyoto	NTT	Y	Y	Y
Tanaka	Toshiki	Fujitsu Laboratories	Y	Y	Y
Thompson	Geoff	GraCaSI	Y		
Toyoda	Hidehiro	Hitachi	Y	Y	Y
Tracy	Nathan	TE Connectivity	Y	Y	Y
Trowbridge	Steve	Alcatel Lucent	Y	Y	Y
Ulrichs	Ed	Sourcephotronics	Y	Y	Y
Vanderlaan	Paul	Nexans Inc	Y	Y	Y
Vareljian	Albert	Independent	Y	Y	
Wang	Xiaofeng	Qualcomm	Y		
Wong	CK	FCI Mergeoptics	Y	Y	Y
Xu	Yu	Huawei	Y	Y	Y
Zhao	Wenyu	CATR China	Y	Y	Y
Zivny	Patel	Tektronix		Y	