IEEE P802.3ba
40Gb/s and 100Gb/s Ethernet

Opening Plenary Report

Dallas, Tx
Nov 2008

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IEEE P802.3ba Task Force Organization

John D'Ambrosia	Task Force Chair
Ilango Ganga	Task Force Chief Editor Editor – Clauses 1, 4, 80, Annexes A, 4A
Mark Gustlin	Chair, "Logic" Sub-task Force Editor – Clauses 81, 82
Chris DiMinico	Chair, "Cu" Sub-task Force Editor – Clause 85
Pete Anslow	Chair, "Optical" Sub-task Force Editor – Clause 88
Hugh Barrass	Editor – Clauses 30, 45, Annexes 30A, 30B
Jonathan King	Editor – Clause 87
Arthur Marris	Editor – Clauses 69, 73, 74, 84, Annexes 69A, 69B
Steve Trowbridge	Editor – Clause 83
Ryan Latchman	Editor – Annex 83A Chair, "nAUI" Ad Hoc
Piers Dawe	Editor – Clause 86 Chair – "Statistical Eye" Ad Hoc
Alessandro Barbieri	Co-chair – Extended Reach Parallel MMF Ad Hoc
John Petrilla	Co-chair - Extended Reach Parallel MMF Ad Hoc
George Oulundsen	Task Force Secretary
Frank Chang	Task Force Web Master

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- To subscribe to the IEEE P802.3ba Task Force reflector, send an email to:

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- Task Force web page URL:

    http://www.ieee802.org/3/ba/

IEEE P802.3ba Private Area

- URL: http://www.ieee802.org/3/ba/private/
  - Username: 802.3ba
  - Password: xxxxxxxx
  - Password <u>is</u> case sensitive

- Write it down…

Task Force Approved Project Documents

- ## PAR
  - http://ieee802.org/3/ba/PAR/par_0308.pdf

- ## 5 Criteria (pending IEEE 802 EC Approval)
  - http://ieee802.org/3/ba/PAR/P802.3ba_5C_0308.pdf

- ## Objectives
  - http://ieee802.org/3/ba/PAR/P802.3ba_Objectives_0308.pdf

Task Force Objectives

- Support full-duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum FrameSize of current 802.3 standard
- Support a BER better than or equal to 10-12 at the MAC/PLS service interface
- Provide appropriate support for OTN
- Support a MAC data rate of 40 Gb/s
- Provide Physical Layer specifications which support 40 Gb/s operation over:
  - at least 10km on SMF
  - at least 100m on OM3 MMF
  - at least 10m over a copper cable assembly
  - at least 1m over a backplane
- Support a MAC data rate of 100 Gb/s
- Provide Physical Layer specifications which support 100 Gb/s operation over:
  - at least 40km on SMF
  - at least 10km on SMF
  - at least 100m on OM3 MMF
  - at least 10m over a copper cable assembly

Adopted by IEEE P802.3ba and approved by 802.3 at Mar 2008 Plenary

September Interim Meeting

- **Seoul, Korea**
  - ❑ Hosted by LG / Nortel – Thank You!
  - ❑ Sept 16 - 19
  - ❑ 130 Attendees
  - ❑ 23 Presentations
    - ▪ 2 presentations related to MMF reach heard after completion of approval of generation of D1.0
  - ❑ Adopted 4x10G solution for 40G 10km Objective
  - ❑ Review of Proposed Text
  - ❑ Result of meeting – Generation of Draft 1.0!
    - ▪ Motion - Move to adopt Draft 0.9 and king_01_0908 as modified by the comments contained in D0_9_Comments_0908.pdf as the basis for Draft 1.0.
    - ▪ Results » Motion Passes: All (y/n/a) 59/0/1

Straw Polls (1 of 2): Related to 40G ≥ 10km SMF

- **Straw Poll #1**: (Chicago Rules)
  - ❑ I would support a decision for a 40G SMF solution this week based on:
    - a) 4x10G CWDM per cole_01_0908.pdf
    - b) 2x20G CWDM per dawe_01_0908.pdf
    - c) Serial per traverso_02_0708.pdf
  - ❑ Results   All in the room: 802.3 voters:

	All in the room	802.3 voters
a)	70	35
b)	12	10
c)	31	20

- **Straw Poll #2**: (select 1 only)
  - ❑ I would support a decision for a 40G SMF solution this week based on:
    - a) 4x10G CWDM per cole_01_0908.pdf
    - b) 2x20G CWDM per dawe_01_0908.pdf
    - c) Serial per traverso_02_0708.pdf
    - d) Abstain
  - ❑ Results   All in the room: 802.3 voters:

	All in the room	802.3 voters
a)	61	33
b)	4	4
c)	24	16
d)	8	3

Straw Polls (2 of 2): Related to 40G $\geq$ 10km SMF

- **Straw Poll #3**:
  - I would support the removal of the 40GbE 10km objective if no agreement
  - Results (y/n/a): 20 / 54 / 19

- **Straw Poll #4**: (proposed by Jeff Maki)
  - I would support a 40G Serial proposal based on 40G electrical lane
  - Results (y/n/a): 5 / 23 / 55

Motions Related to 40G 10km SMF

- **Motion #1**:
  - Move to adopt 2x20G CWDM as per "dawe_01_0908.pdf" as the baseline proposal for the 40GE 10km SMF PMD objective.
  - Results: All (y/n/a): 15/51/24, 802.3 voters (y/n/a): 11/33/10
  - Motion fails
- **Motion #2**:
  - Move to adopt Serial as per "traverso_02_0708.pdf" as the baseline proposal for the 40GE 10km SMF PMD objective.
  - Results: All (y/n/a): 39/49/16, 802.3 voters (y/n/a): 23/33/3
  - Motion fails
- **Motion #3**:
  - Move to adopt 4x10G CWDM as per "cole_01_0908.pdf" as the baseline proposal for the 40GE 10km SMF PMD objective.
  - Results: All (y/n/a): 74/26/6, 802.3 voters (y/n/a): 41/20/1
  - Motion fails
- **Motion #4**:
  - Move to remove the 40GE 10km SMF PMD objective from the P802.3ba project.
  - Results: All (y/n/a): 33/43/27, 802.3 voters (y/n/a): 16/21/19
  - Motion fails

Motion #3 Reconsidered

- **<u>Motion #3 Reconsidered</u>**:
  - ❑ Move to adopt 4x10G CWDM as per "cole_01_0908.pdf" as the baseline proposal for the 40GE 10km SMF PMD objective.
  - ❑ Results: All (71/3/23), 802.3 (39/2/16)
  - ❑ Motion passes

- **<u>Straw Poll #5</u>**: (Requested by Matt Traverso)
  - ❑ I believe that the 40GbE serial PMD proposal is worthy of consideration in a future project.
  - ❑ Results: Y: 86

Straw Poll related to XR Ad Hoc / MMF

- **<u>Straw Poll #6</u>**: (Requested by Paul Kolesar)
  - ❑ The goal for extending the reach on MMF should be:
    - A. at least 150m on OM3
    - B. at least 250m on OM4
    - C. both A and B
    - D. at least 200m on OM4
    - E. both A and D
    - F. there should be no goal for extended reach

- Results (All):
  - A: 7
  - B: 3
  - C: 5
  - D: 1
  - E: 0
  - F: 27

Draft 1.0

- All objectives met.
- Released Oct 1
- Comment Submission Date: Oct 30

- Thanks to Editorial team, volunteers and contributors for their efforts in releasing and commenting on Draft 1.0.

Comments Received Against D1.0

Description	Clause (s)	T/TRs	E/ERs	Total
Front matter, MAC, 40G and 100G Introduction	00, 01, A, 4, 4A, 80, 99	37	38	75
Management	30, 30A, 30B, 45	43	14	57
RS/MII and PCS	81, 82	66	41	107
PMA	83	29	22	51
XLAUI and CAUI	83A	43	18	61
Backplane KR4 related	69, 69A, 69B, 73, 74, 84	32	10	42
Copper CR4 & CR10	85	73	7	80
Optical SR4 & SR10	86	81	17	98
Optical 40G LR4	87	25	6	31
Optical 100G LR4 & ER4	88	32	8	40
	Total	**461**	**181**	**642**

November Interim Meeting

- Adjacent and co-located with 802 Plenary Meeting (11/9 – 11/10)
- ≈ 60 attendees
- Liaisons
  - ITU-T SG15, Document #COM 15-LS-02-E
  - ISO/IEC JTC 1/SC 25/WG 3, Document #N 882A
- Ad hoc Reports
  - XR MMF Ad hoc
  - nAUI Ad hoc
- Comment Resolution – Introductory Material, Logic Sub-Task Force, Cu Sub-Task Force (Annex 83A – XLAUI / CAUI)
- Joint meeting between Task Forces to discuss electrical specifications, FEC, Auto-negotiation

IEEE P802.3ba Task Force Timeline

You Are Here

Task Force Formation

Baseline

TF Review

WG Ballot

LMSC Ballot

Standard

Last Proposal

Last Feature

Last Technical Change

N D | J F M A M J J A S O N D | J F M A M J J A S O N D | J F M A M J J A S O N

2008 | **2009** | **2010**

PAR Approved

D1.0

D2.0

D3.0

TF Reviews | WG Ballots | LMSC Ballots

Legend
△ IEEE 802 Plenary
○ IEEE 802.3 Interim
■ IEEE-SA Standards Board
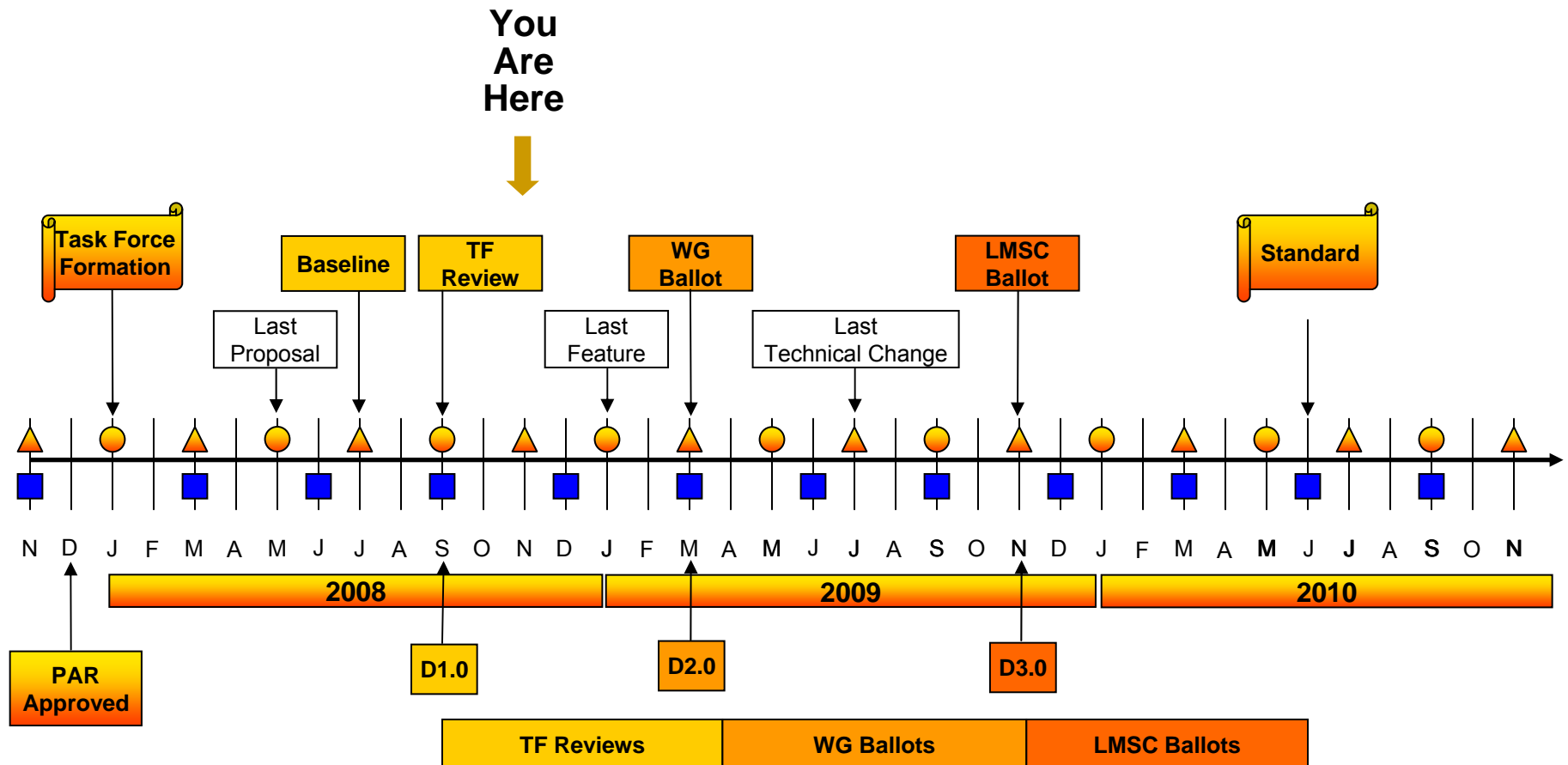
* Adopted by IEEE P802.3ba TF at March 08 Plenary

Goals for This Week

- **Progress towards a technically complete document.**

- **Comment Resolution**
  - Hear 31 technical presentations related to comments

- **Consider 2 liaisons**
  - ITU-T SG15, Document #COM 15-LS-02-E
  - ISO/IEC JTC 1/SC 25/WG 3, Document #N 882A

Key Issues to Address

- **Common to logic and PMD clauses**
  - ❑ Skew and Delay constraints (PCS/PMA/PMD)
- **Test procedures**
- **Test patterns**
- **Electrical specifications**
- **Electrical channel characterization**
- **Management**
  - ❑ Strategy to address Multiple PMA instances, atomic PMAs, and PMAs separated from PMDs
  - ❑ Management objects (Clause 30)

Meeting Map (1 of 2)

	Sun	Mon		Tues		
8:00		SEC	Copper (Annex 83A)	Logic	Copper	Optics
8:30						
9:00						
9:30						
10:00						
10:30						
11:00		802.0 Plenary				
11:30						
12:00		Lunch		Lunch		
12:30						
13:00	All	802.3 Plenary		Logic	Copper	Optics
13:30						
14:00						
14:30						
15:00						
15:30						
16:00						
16:30						
17:00	Dinner					
17:30						
18:00	Joint Mtg of Copper and Optics / Logic	Dinner		Dinner		
18:30						
19:00			Intro Clause 80 & Mgmt	Logic	Copper	Optics
19:30						
20:00						
20:30						

Meeting Map (2 of 2)

	Wed			**Thur**	**Fri**
8:00	Logic	Copper	Optics	All - Motions & Closing Business	
8:30					
9:00					
9:30					
10:00					
10:30					
11:00					
11:30					
12:00	Lunch			Lunch	
12:30					
13:00	Logic	Copper	Optics	802.3 Plenary	SEC
13:30					
14:00					
14:30					
15:00					
15:30					
16:00					
16:30					
17:00					
17:30					
18:00	Dinner				
18:30	Social				
19:00					
19:30					
20:00					
20:30					

Thank You!