

IEEE P802.3 WG Opening Report

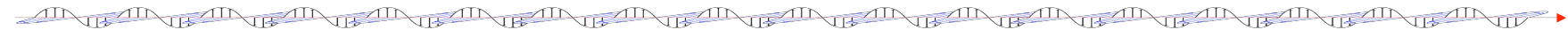
IEEE 802.3bm

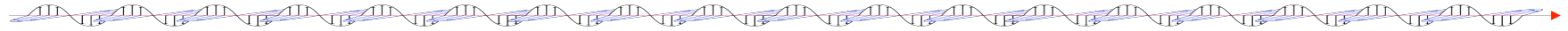
40 Gb/s and 100 Gb/s Fiber Optic Task Force

Dan Dove

Applied Micro

Orlando, FL – 18 March 2013





IEEE P802.3bm Task Force Organization

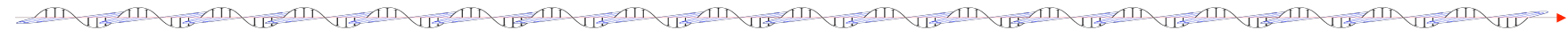
Dan Dove – Chair

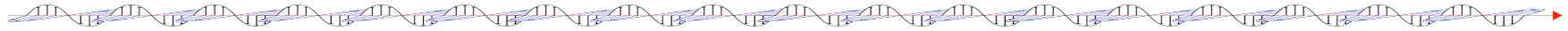
Kapil Shrikhande – Vice Chair

Pete Anslow – Chief Editor, SMF Editor

Jonathan King – MMF Editor

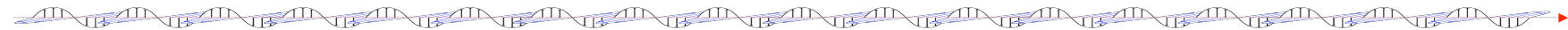
Ryan Latchman – CAUI-4 Editor

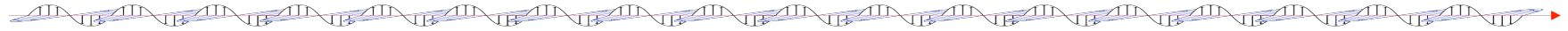




Reflector & Web

- To subscribe to the 40 Gb/s and 100 Gb/s Fiber Optic reflector send an email to: Listserve.ieee.org with the following in the body of the message (do not include “<>”):
subscribe stds-802-3-100GNGOPTX <yourfirstname> <yourlastname>
- Send 40 Gb/s and 100 Gb/s Fiber Optic reflector messages to:
stds-802-3-100GNGOPTX-request@listserv.ieee.org
- Task Force web page URL:
<http://www.ieee802.org/3/bm/index.html>

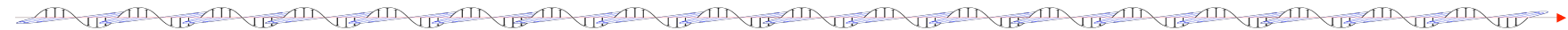


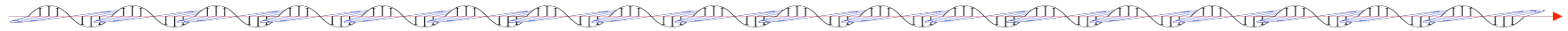


Project Documentation

- **PAR** (as amended in Jan 2013) ⁽¹⁾
 - http://www.ieee802.org/3/bm/P802_3bm_PAR_0113.pdf
- **5 Criteria**
 - http://www.ieee802.org/3/bm/P8023bm_5Criteria_1112.pdf
- **Objectives**
 - http://www.ieee802.org/3/bm/P8023bm_Objectives_1112.pdf
- **Timeline**
 - http://www.ieee802.org/3/bm/timeline_0912.pdf

(1) Modified PAR has been pre-submitted for EC approval, requires 802.3 approval this week





Change to PAR since Nov 2012

10 km) single-mode fiber optic cables.

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5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: This document will not include a purpose clause.

Changes in purpose:

5.5 Need for the Project: Rapid growth of server, network, and internet traffic is driving the need for higher data rates, higher density, lower cost fiber optic solutions, especially in the data center space. Advances in technology now allow the specification of new 100 Gb/s Physical Layer types with reduced lane count, addressing these needs. IEEE Std 802.3 does not currently define a 100 Gb/s four-lane electrical interface between host ICs and optical modules, nor does it define an extended reach solution for 40 Gb/s on single-mode fiber beyond 10 km.

5.6 Stakeholders for the Standard: Stakeholders that have been identified to date include, but are not limited to: users and producers of systems and components for servers, network storage, networking systems, data centers, high performance computing, and telecommunications carriers.

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

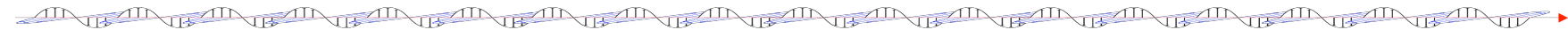
7.1 Are there other standards or projects with a similar scope?: No

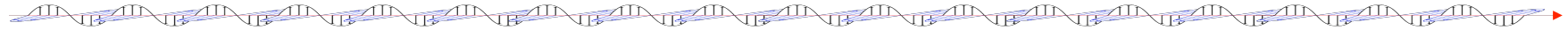
7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

8.1 Additional Explanatory Notes (Item Number and Explanation): Item# 5.2: The resulting standard will comply with IEEE Std 802, IEEE Std 802.1D, and IEEE Std 802.1Q.

Item# 5.2b: The scope has been expanded to allow the addition of optional Energy Efficient Ethernet (EEE) for 40 Gb/s and 100 Gb/s operation over fiber optic cables.

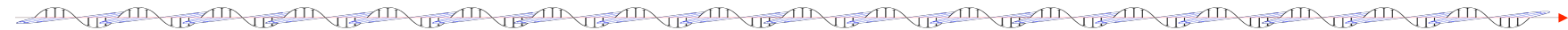




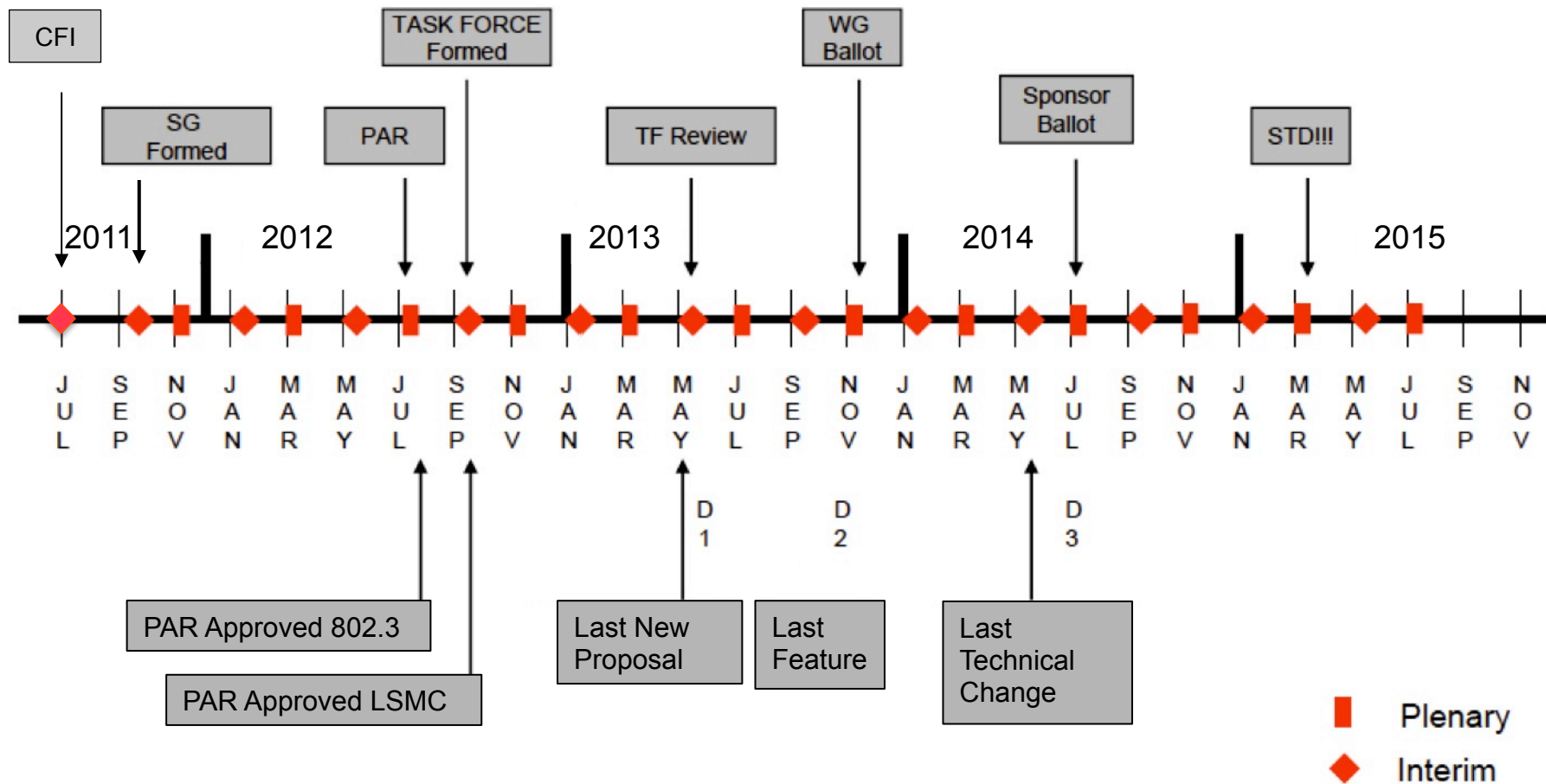
IEEE P802.3bm Task Force Objectives

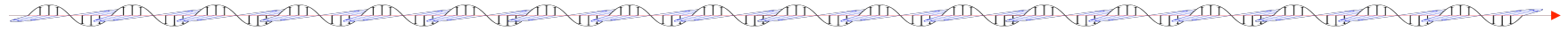
- ✧ Support full-duplex operation only
- ✧ Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
- ✧ Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- ✧ Support a BER better than or equal to 10⁻¹² at the MAC/PLS service interface
- ✧ Provide appropriate support for OTN
- ✧ Define re-timed 4-lane 100G PMA to PMA electrical interfaces for chip to chip and chip to module applications
- ✧ Define a 40 Gb/s PHY for operation over at least 40 km of SMF
- ✧ Define a 100 Gb/s PHY for operation up to at least 500 m of SMF
- ✧ Define a 100 Gb/s PHY for operation up to at least 100 m of MMF
- ✧ Define a 100 Gb/s PHY for operation up to at least 20 m of MMF
- Specify optional Energy Efficient Ethernet (EEE) for 40 Gb/s and 100 Gb/s operation over fiber optic cables.

- ✧ (approved by 802.3 July 2011)
- (approved by 802.3 November 2012)



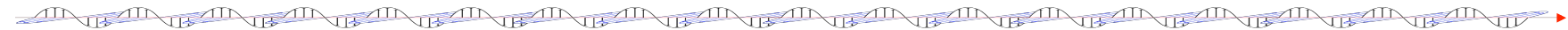
P802.3bm Adopted Timeline

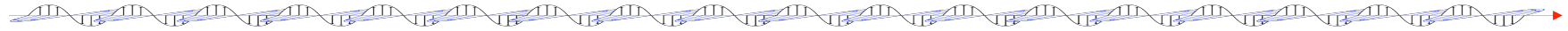




Task Force Private Area

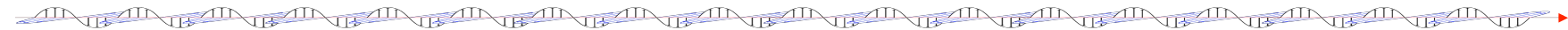
- URL: <http://www.ieee802.org/3/b/private/index.html>
 - Username:
To be provided
 - Password:
 -
- Write it down...
- Note - The documents within are posted for your review only, and neither the drafts nor access information should be copied or redistributed to others in violation of document copyrights.

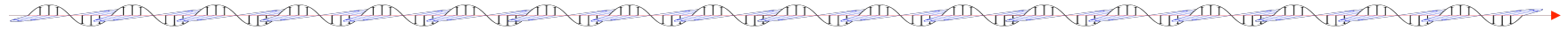




Activities Since November 2012 Plenary

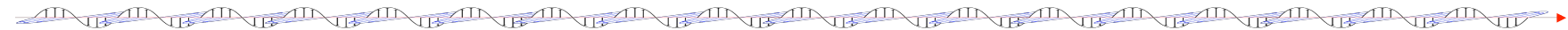
- January Interim, Phoenix AZ
 - 27 Presentations
 - Adopted Modification to PAR
 - Two Baseline Proposals Adopted
 - 100m MMF
 - CAUI-4 Host/Mod
 - Many Straw Polls performed to identify areas for work on SMF
- Ad hoc meetings (Since November 2012)
 - SMF held 9 ad hoc calls
<http://www.ieee802.org/3/bm/public/smfadhoc/meetings/index.html>
 - MMF held 8 ad hoc calls
<http://www.ieee802.org/3/bm/public/mmfadhoc/meetings/index.html>
 - CAUI-4 held 6 ad hoc calls
<http://www.ieee802.org/3/bm/public/cuadhoc/meetings/index.html>
- A liaison letter from OIF came which included the OIF-28G-VSR and OIF-28G-MR drafts

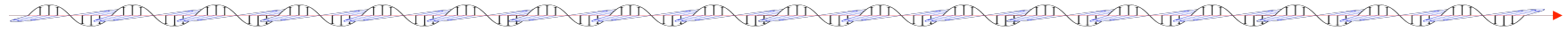




Goals for this week's meeting

- Review Task Force Operation & Schedule
- Review ad hoc Activities & Reports
- Respond to OIF liaison letter
 - http://www.ieee802.org/3/bm/public/mar13/OIF_liaison_IEE802.3b_07Feb2013.pdf
- Presentation of Material Relevant to Our Objectives
- Consider Motions & Discussions
 - Consider baseline proposals
 - Lay the ground work for the next meeting
- Wrap Up & Future Meeting Discussion





Meeting Info

We are meeting the following days/times/location

9:00am – 5:00pm Tuesday, **Grand Sierra D**

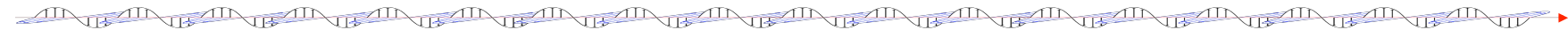
9:00am – 5:00pm Wednesday, **Grand Sierra D**

9:00am – 12:00pm Thursday, **Grand Sierra D**

See the website for presentations and minutes

<http://www.ieee802.org/3/bm/public/index.html> (Public Index)

<http://www.ieee802.org/3/bm/public/mar13/index.html> (March Index)





Thank you

