



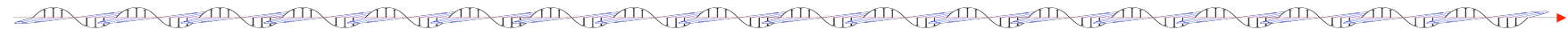
# Agenda and General Information

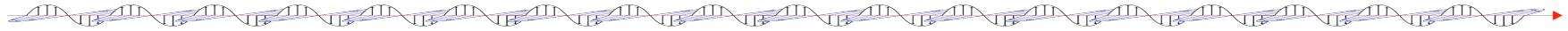
## IEEE 802.3 40 Gb/s and 100 Gb/s Fiber Optic Task Force

Dan Dove

Applied Micro

Orlando, Florida USA – 19 - 21 March 2013

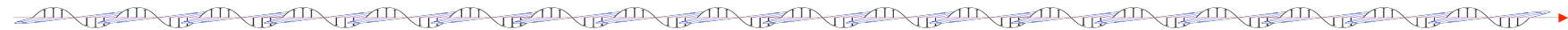




# Agenda

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- Appointment of Recording Secretary
- Welcome and Introductions
- Approve Agenda
- Approve Minutes of January Interim Meeting
- Goals for this meeting
  - Big Ticket Items
- Reflector and Web
- Ground Rules
- IEEE
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Liaisons and Communications
- Review of Action Items from September Meeting
- Presentations
- Motions, Discussions and Closing Business
- Future Meetings



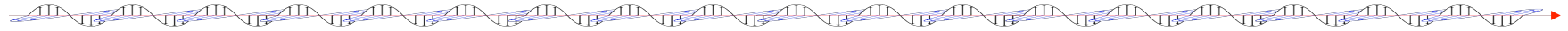


# Task Force Decorum

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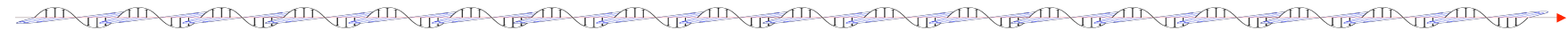
- Photography or recording by permission only (2010 SASB Op Manual 5.3.3.4)
- Cell phone ringers off
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (5.3.3.5)
- Wear your badges at all times in meeting areas
  - Help the hotel security staff improve the general security of the meeting rooms
  - **PCs HAVE BEEN STOLEN** at previous meetings
  - **DO NOT** assume that meeting areas are secure
- Please observe proper decorum in meetings

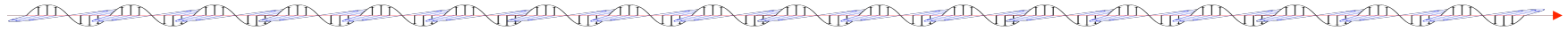


# Goals for the meeting

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- Review Task Force Operation & Schedule
- Review Ad hoc Activities & Reports
- 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





# Reflector and Web

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- To subscribe to the *Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet* reflector, send an email to: [ListServ@ieee.org](mailto:ListServ@ieee.org)

with the following in the body of the message (do not include “<>”):

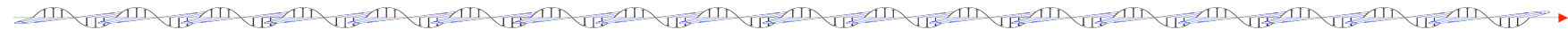
**subscribe** stds-802-3-100Goptx <yourfirstname> <yourlastname>  
**end**

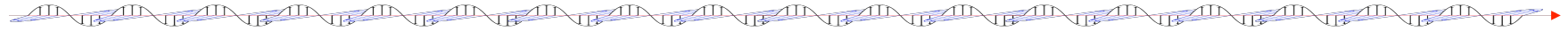
- Send *Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet* reflector messages to:

**STDS-802-3-100Goptx@LISTSERV.IEEE.ORG**

- Task Force web page URL:

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

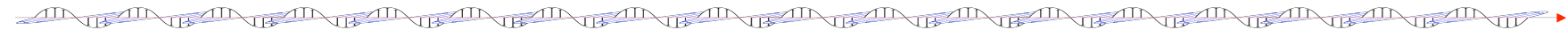




# Task Force Private Area

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

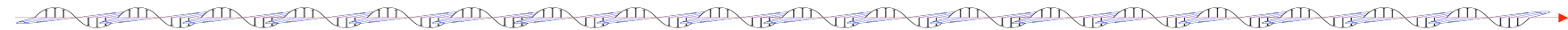


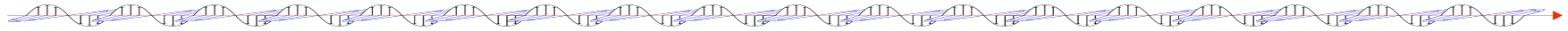


# Ground Rules

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- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**... give it, get it – Do unto others...
- NO product pitches (ex: “LightZippyDoo is the best!”)
- NO corporate pitches (ex: “We Illuminate Your Networks!”)
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- NO restrictive notices





# Attendance

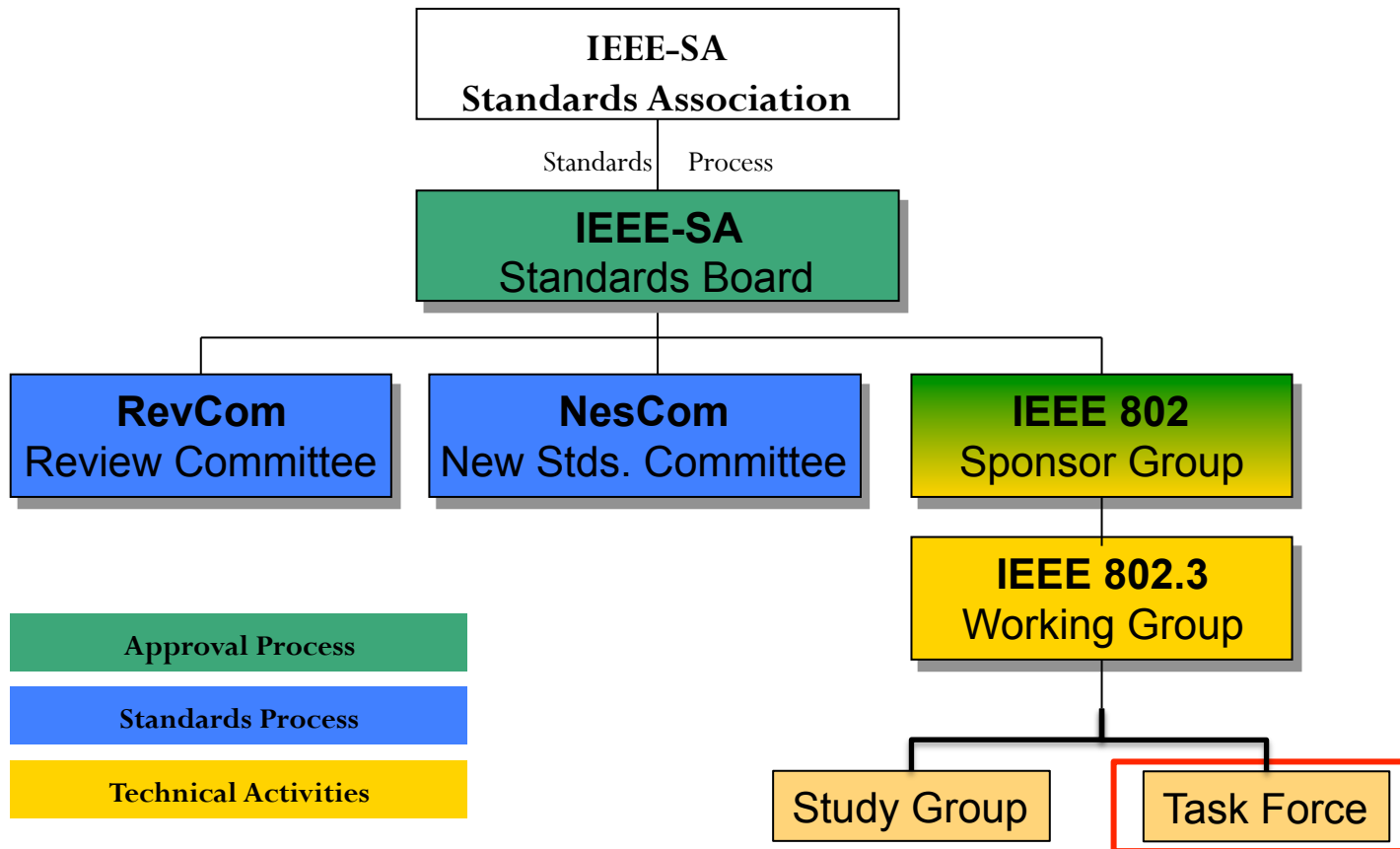
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- Tutorial Material on attendance tool
  - [http://ieee802.org/3/minutes/mar11/0311\\_imat.pdf](http://ieee802.org/3/minutes/mar11/0311_imat.pdf)
- URL (Valid for this meeting only)
  - URL: <https://imat.ieee.org>





# IEEE Structure

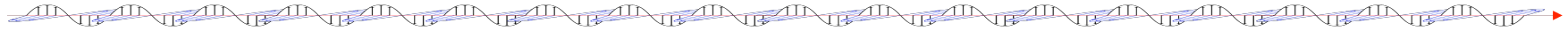




# Important Bylaws and Rules

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- **IEEE-SA Operations Manual**  
<http://standards.ieee.org/sa/sa-om.pdf>
- **IEEE-SA Standards Board Bylaws**  
<http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf>
- **IEEE-SA Standards Board Operations Manual**  
<http://standards.ieee.org/guides/opman/sb-om.pdf>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Policies and Procedures**  
<http://standards.ieee.org/about/sasb/audcom/pnp/LMSC.pdf>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual**  
[http://www.ieee802.org/PNP/2010-07/IEEE\\_802\\_LMSC\\_OM\\_approved\\_100716.pdf](http://www.ieee802.org/PNP/2010-07/IEEE_802_LMSC_OM_approved_100716.pdf)
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures**  
[http://www.ieee802.org/PNP/2010-07/IEEE\\_802\\_LMSC\\_WG\\_PandP\\_approved\\_100716.pdf](http://www.ieee802.org/PNP/2010-07/IEEE_802_LMSC_WG_PandP_approved_100716.pdf)
- **IEEE 802.3 Working Group Operating Rules**  
[http://ieee802.org/3/rules/P802\\_3\\_rules.pdf](http://ieee802.org/3/rules/P802_3_rules.pdf)



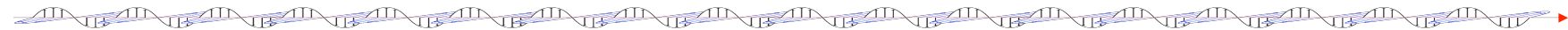
# Guidelines for IEEE-SA Meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
- **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
- **Don't discuss specific license rates, terms, or conditions.**
  - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
    - Technical considerations remain primary focus
- **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
- **Don't discuss the status or substance of ongoing or threatened litigation.**
- **Don't be silent if inappropriate topics are discussed... do formally object.**

-----  
If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at [patcom@ieee.org](mailto:patcom@ieee.org) or visit <http://standards.ieee.org/about/sasb/patcom/index.html>

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy” for more details.

This slide set is available  
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>

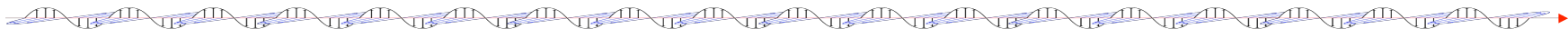


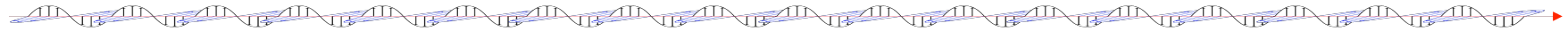


# Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.

- **Participants [Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2]:**
  - **“Shall inform the IEEE (or cause the IEEE to be informed)” of the identity of each “holder of any potential Essential Patent Claims of which they are personally aware” if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents**
    - **“Personal awareness” means that the participant “is personally aware that the holder may have a potential Essential Patent Claim,” even if the participant is not personally aware of the specific patents or patent claims**
  - **“Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of such potential Essential Patent Claims” (that is, third parties that are not affiliated with the participant, with the participant’s employer, or with anyone else that the participant is from or otherwise represents)**
- **The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group**
- **Early identification of holders of potential Essential Patent Claims is strongly encouraged**
- **No duty to perform a patent search**





# Patent Related Links

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All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.

Patent Policy is stated in these sources:

IEEE-SA Standards Boards Bylaws

*<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>*

IEEE-SA Standards Board Operations Manual

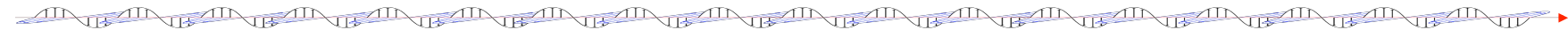
*<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>*

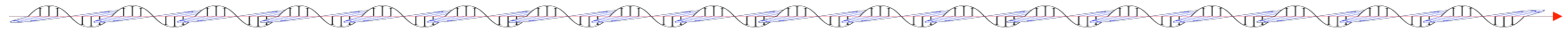
Material about the patent policy is available at

*<http://standards.ieee.org/about/sasb/patcom/materials.html>*

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at [patcom@ieee.org](mailto:patcom@ieee.org) or visit <http://standards.ieee.org/about/sasb/patcom/index.html>

This slide set is available at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>



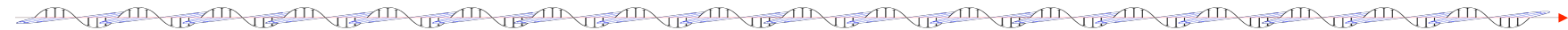


# Call for Potentially Essential Patents

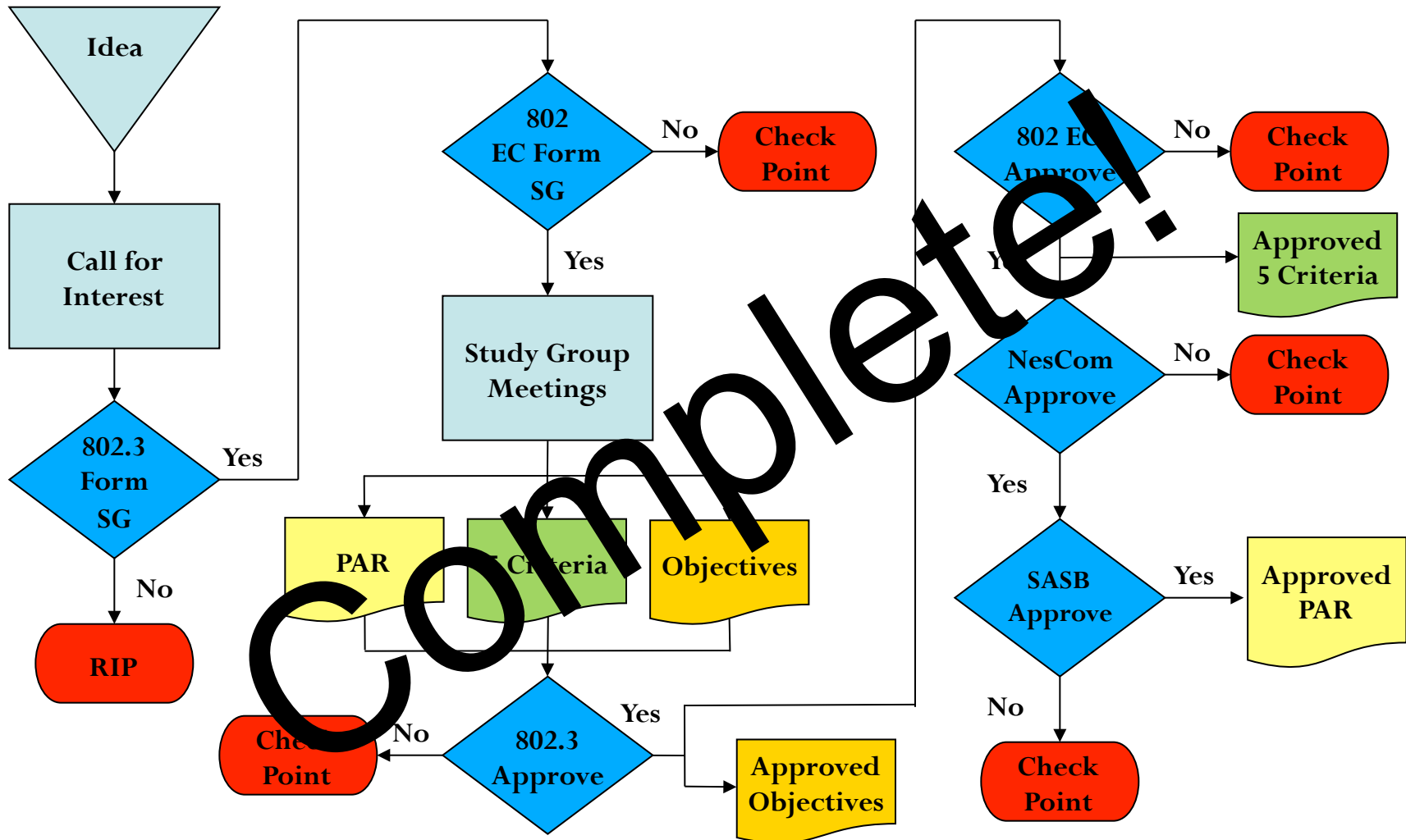
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- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
  - Either speak up now or
  - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible or
  - Cause an LOA to be submitted

❖ **NOTE TO SECRETARY – Record this Call & Response to Call**

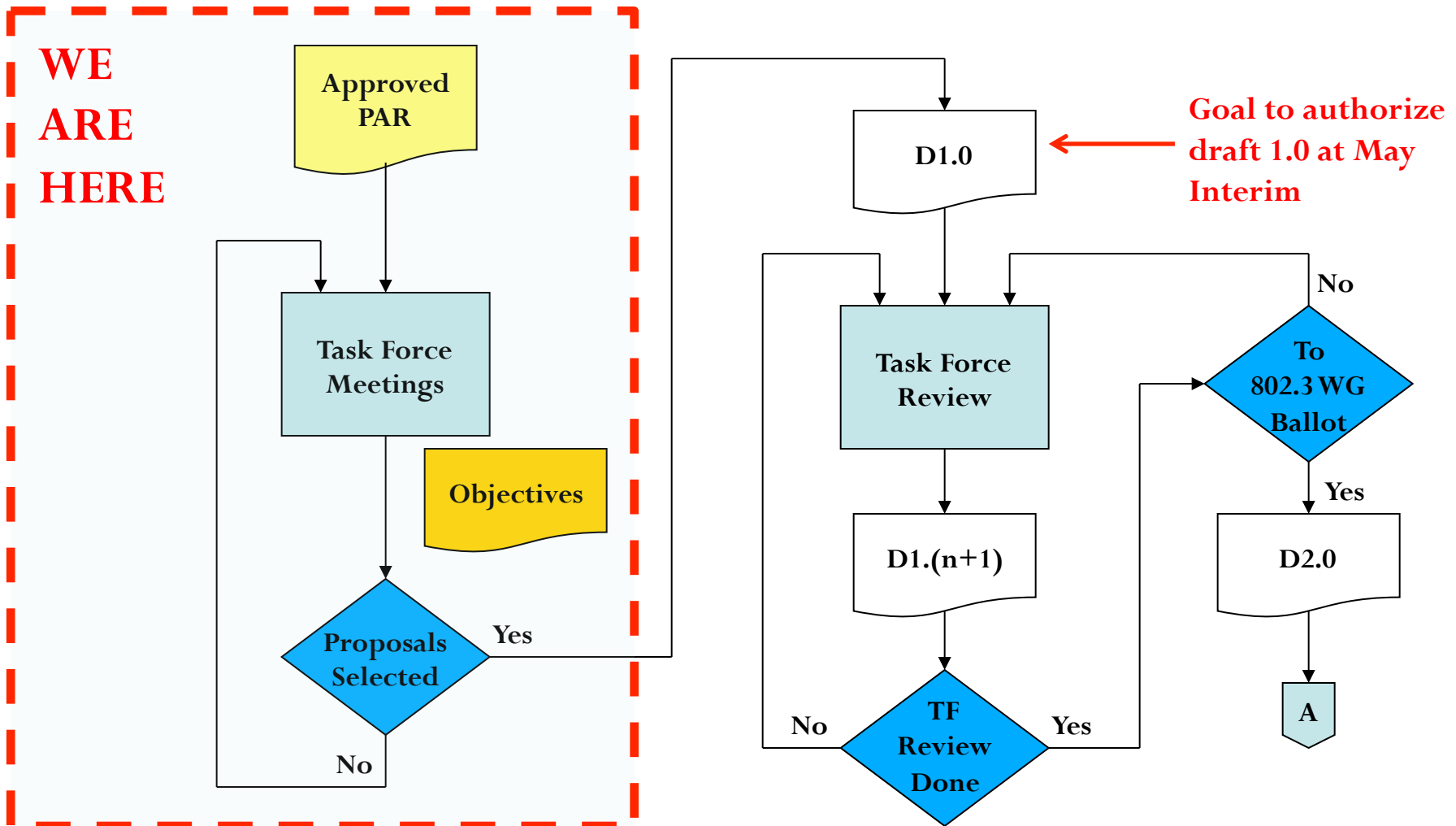


# Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase



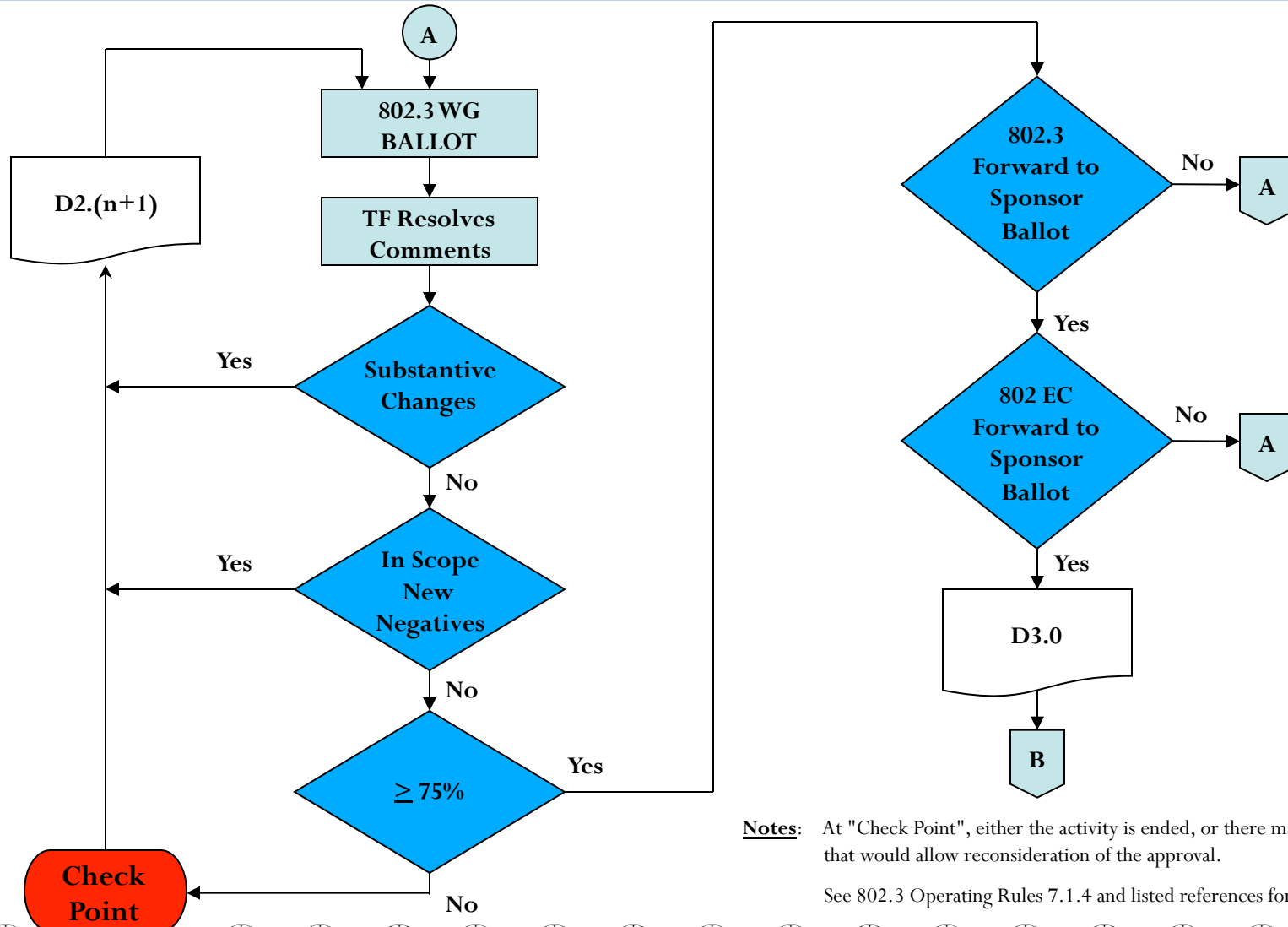
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

# Overview of IEEE 802.3 Standards Process (2/5) – Task Force Comment Phase





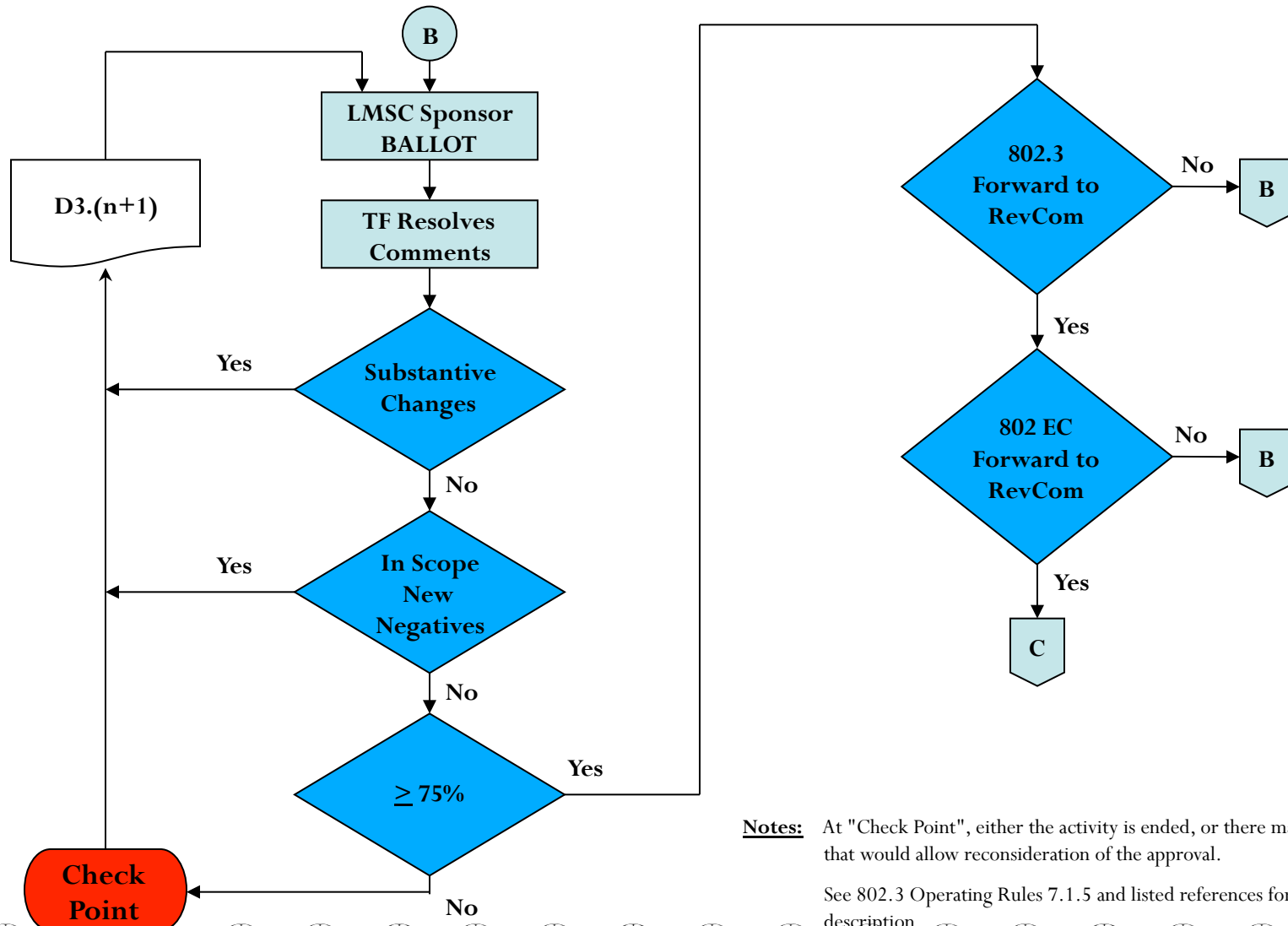
# Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.4 and listed references for complete description

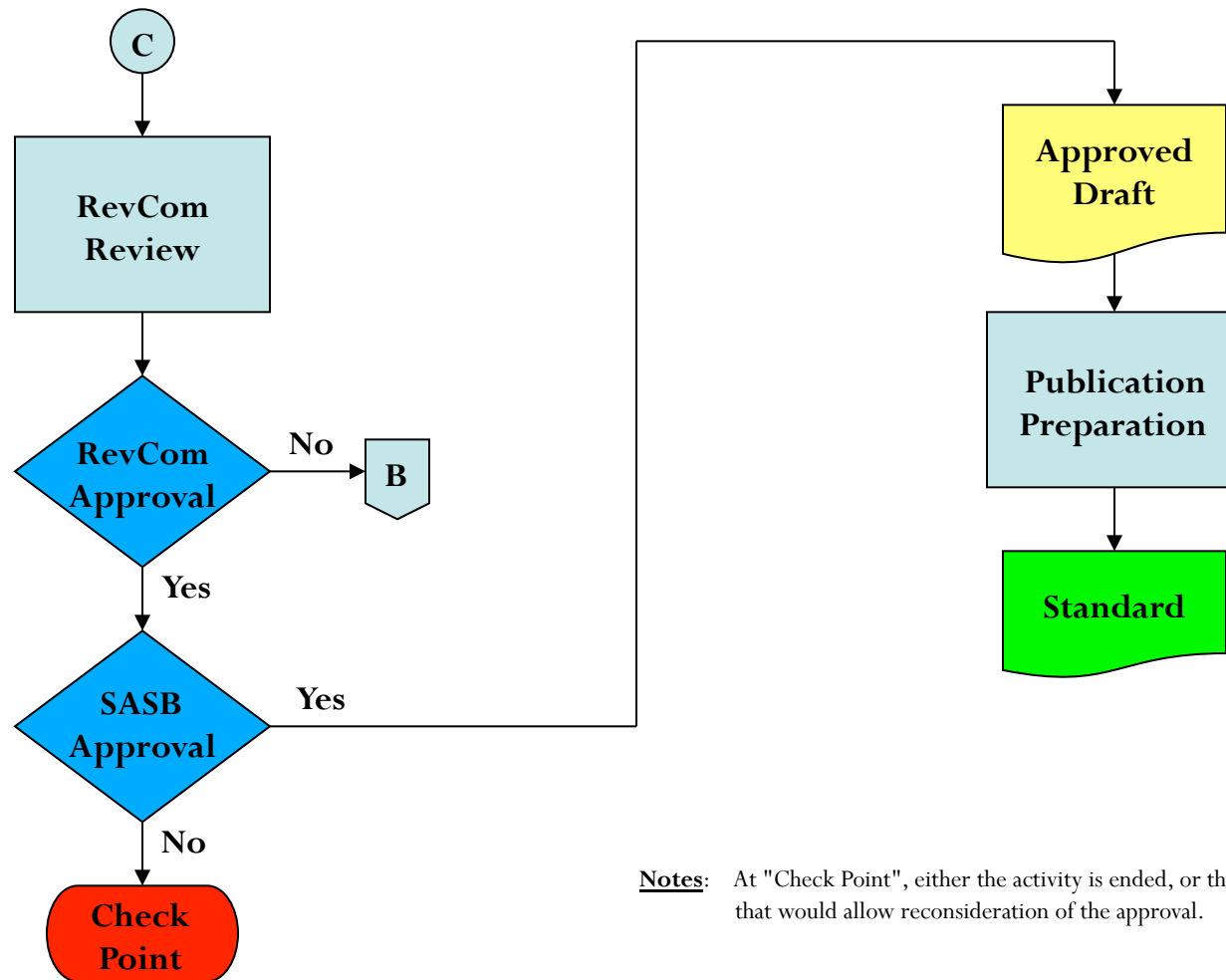
# Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



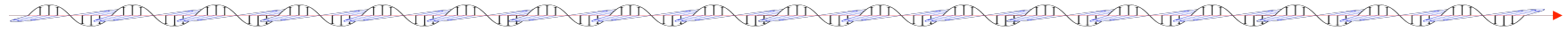
**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.5 and listed references for complete description

# Overview of IEEE 802.3 Standards Process (5/5) – Final Approvals / Standard Release



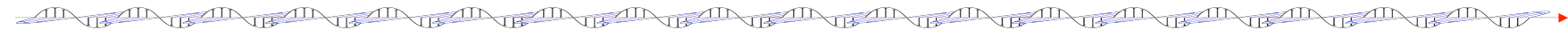
**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

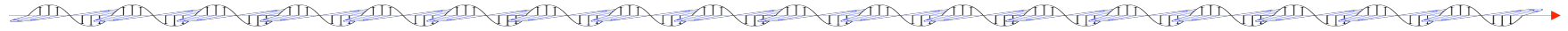


# Liaisons and Communications

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- **P802.3bj/P802.3bm Joint Session**
  - None at this meeting.
- **OIF**
  - Ongoing communications between OIF and IEEE 802.3 initiated by IEEE P802.3ba project
  - In regards to OIF CEI-25G-LR, CEI-28G-SR, CEI-28G-VSR
  - Currently being operated through 802.3 Working Group
  - **OIF Liaison letter received February 7<sup>th</sup> including OIF-28G-VSR and OIF-28G-MR draft documents.**
- **ITU-T**
  - Continued liaison activity to ensure alignment



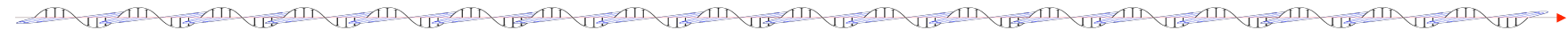


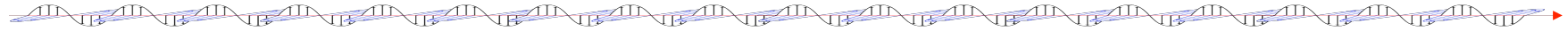
# Pending Action Items

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- Draft liaison response to OIF
- Complete Baseline Proposals for objectives
  - MMF >20m\*
  - CAUI-4 (chip-to-chip)
  - SMF >500m\*

\* 5 Criteria Responses indicate that these objectives may be satisfied without a new PMD

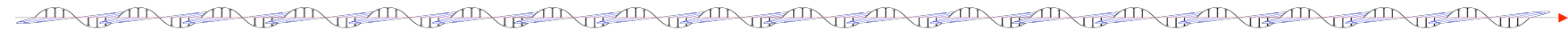


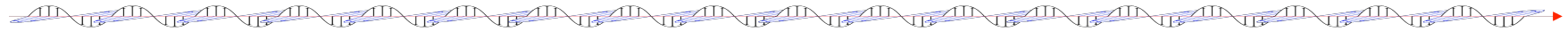


# IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet Approved Project Documents

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- **PAR** (as amended in Jan 2013)
  - [http://www.ieee802.org/3/bm/P802\\_3bm\\_PAR\\_0113.pdf](http://www.ieee802.org/3/bm/P802_3bm_PAR_0113.pdf)
- **5 Criteria**
  - [http://www.ieee802.org/3/bm/P8023bm\\_5Criteria\\_1112.pdf](http://www.ieee802.org/3/bm/P8023bm_5Criteria_1112.pdf)
- **Objectives**
  - [http://www.ieee802.org/3/bm/P8023bm\\_Objectives\\_1112.pdf](http://www.ieee802.org/3/bm/P8023bm_Objectives_1112.pdf)
- **Timeline**
  - [http://www.ieee802.org/3/bm/timeline\\_0912.pdf](http://www.ieee802.org/3/bm/timeline_0912.pdf)

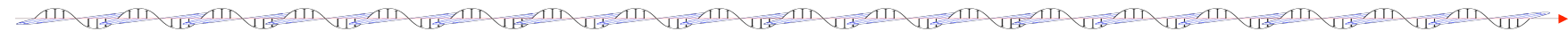




# IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet Objectives

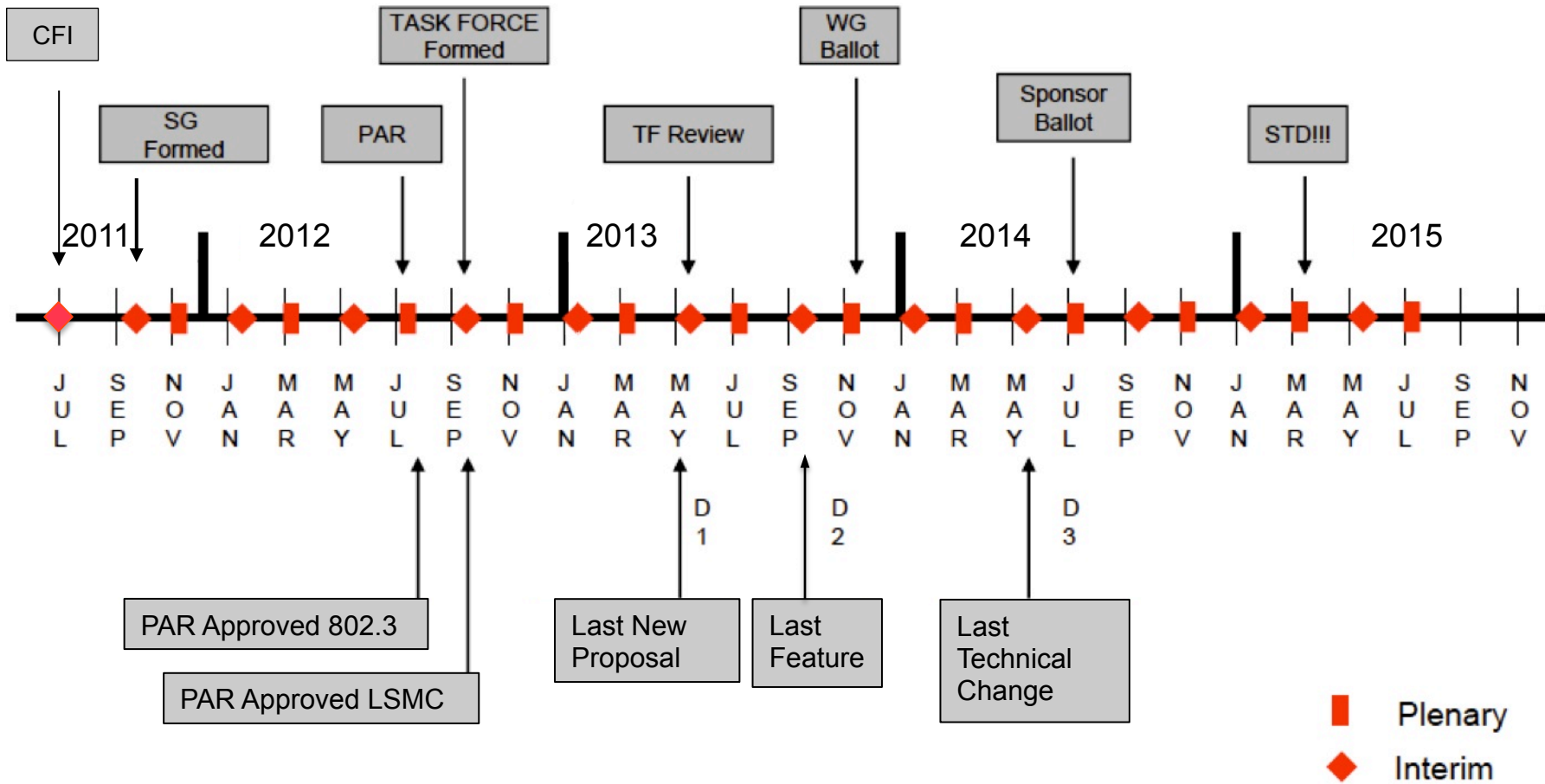
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- ✧ Support full-duplex operation only
- ✧ Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
- ✧ Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- ✧ Support a BER better than or equal to  $10^{-12}$  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)





# IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet Timeline (Adopted 28<sup>th</sup>, September 2012 )







# Tuesday Presentations

Tuesday 19-March-2013

Note –Times listed are subject to change.

Tuesday		Start Time	9:00	Discussion Time	15
Presentation					
Time	Duration	Presenter	Affiliation	Title	Filename
9:00	30	Dan Dove	Applied Micro	Introductions, Review Task Force Operation	dove_01_0313_optx.pdf
9:30	10	Pete Anslow	Ciena	SMF Ad hoc report	anslow_01_0313_optx.pdf
9:40	15	Pete Anslow	Ciena	Editor's Report	anslow_02_0313_optx.pdf
9:55	15	Paul Kolesar	Commscope	Loss Budgeting for Single-mode Channels	kolesar_02_0313_optx.pdf
10:25	15	BREAK			
10:40	20	Jonathan King	Finisar	100Gb/s SMF PMDs	cole_01_0313_optx.pdf
11:15	20	Paul Kolesar	Commscope	Broad Market Potential and Economic Feasibility of PSM4	kolesar_01_0313_optx.pdf
11:50	60	LUNCH			
12:50	15	Tom Palkert	Luxtera	PSM4 broad market potential	palkert_01_0313_optx.pdf
13:20	15	Tom Palkert	Luxtera	PSM4 system cost analysis	palkert_02_0313_optx.pdf
13:50	20	John Petrilla	Avago	100G PSM4 Link Model Results Update	petrilla_02_0313_optx.pdf
14:25	20	Brian Welch	Luxtera	PSM4 vs. WDM: A Silicon Photonics Perspective	welch_01_0313_optx.pdf
15:00	15	BREAK			
15:15	20	Jon Anderson	Oclaro	500 m SMF Objective Baseline Proposal	anderson_01_0313_optx.pdf
15:50	20	Tek Ming Shen	Huawei	CWDM Solution for 500m SMF Economical Feasibility	shen_01_0313_optx.pdf
16:25	20	Rang-Chen Yu	Oplink	Cost reference and technical spec. revision proposal for 4x25G CWDM Solutions	yu_01_0313_optx.pdf
17:00	0	RECESS Till 9:00am			



# Wednesday Presentations

Wednesday 20-March-2013

Note –Times listed are subject to change.

Wednesday		Start Time	9:00		Discussion Time	15
Presentation						
Time	Duration	Presenter	Affiliation	Title		Filename
9:00	15	Dan Dove	Applied Micro	Introductions, Review Task Force Operation		
9:15	20	Yurii Vlasov	IBM	100GBASE-CWDM Baseline Proposal		vlasov_01_0313_optx.pdf
9:50	20	Ilya Lyubomirsky	Finisar	Nonlinearity Penalty for 100G DMT based on 25G-class DFB Transmitter		lyubomirsky_01_0313_optx.pdf
10:25	15	BREAK				
10:40	20	Toshiki Tanaka	Fujitsu	RIN Impact on Power Budget in Optical 100GbE DMT		tanaka_01_0313_optx.pdf
11:15	20	Tomoo Takahara	Fujitsu	DMT Power Budget Discussion		takahara_01_0313_optx.pdf
11:50	60	LUNCH				
12:50	15	Jonathan King	Finisar	MMF Ad hoc report		king_01_0313_optx.pdf
13:20	20	John Petrilla	Avago	100G MMF 20 m & 100 m Link Model Comparison		petrilla_01_0313_optx.pdf
13:55	20	Jonathan King	Finisar	Baseline proposal for 20m reach MMF objective		king_02_0313_optx.pdf
14:30	15	BREAK				
15:00	120	Discussion		Motions, Straw Polls, Discussion		
17:00	0	RECESS Till 9:00am				

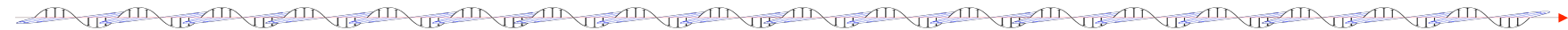


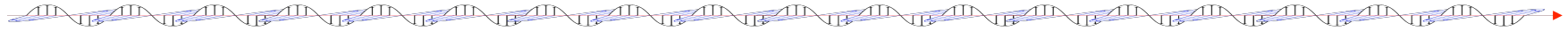
# Thursday Presentations

Thursday 21-March-2013

Note –Times listed are subject to change.

Thursday		Start Time	9:00	Discussion Time	15
Presentation Time	Duration	Presenter	Affiliation	Title	Filename
9:00	10	Dan Dove	Applied Micro	Introductions, Review Task Force Operation	
9:10	10	Ryan Latchman	MindSpeed	CAUI-4 Ad hoc Report	latchman_01_0313_optx.pdf
9:35	15	Mike Peng Li	Altera	A CAUI-4 Chip-to-Chip Link Study, Part 2	li_01_0313_optx.pdf
10:05	15	BREAK			
10:20	20	Ali Ghiasi	Broadcom	Simulation and Methodology Addressing CAUI C2C	ghiasi_01_0313_optx.pdf
10:55	20	Ryan Latchman	MindSpeed	CAUI-4 chip-chip baseline proposal	latchman_02_0313_optx.pdf
11:30	30	Discussion		Motions, Straw Polls, Discussion	
12:00	0	Adjourn			

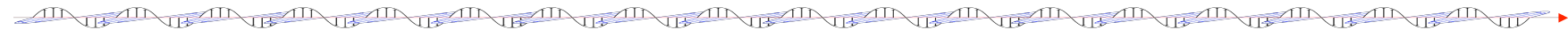




# Future Meetings

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- See: <http://www.ieee802.org/3/interims/index.html>
- **Week of May 13, 2013 (interim)**
  - The Fairmont Empress
  - Victoria, BC, Canada
  - Hosted By: Ethernet Alliance
- **Week of July 15, 2013 (plenary)**
  - ITU Meeting Location
  - Geneva, Switzerland
  - Hotels – Seek & Find your own accommodations asap!
- **Week of Sept 2, 2013 (Interim)**
  - York Racecourse Conference Center
  - York, UK
  - Hosted By: ADVA
  
- Anyone interested in hosting a meeting contact Steve Carlson.





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# Thank You!

