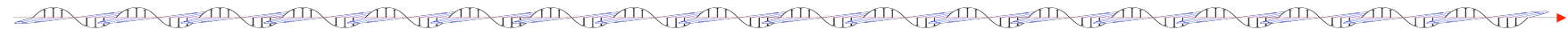# Agenda and General Information
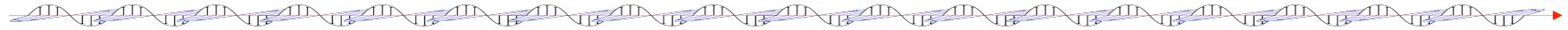
IEEE 802.3

40 Gb/s and 100 Gb/s Fiber Optic

Task Force

Dan Dove

Applied Micro

Geneva, CH – 15 - 18 July 2013
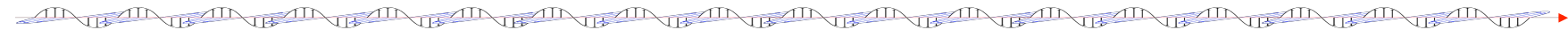
Agenda

- Appointment of Recording Secretary
- Welcome and Introductions
- Approve Agenda
- Approve Minutes of May 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 May Meeting
- Comment Resolution (Led by Pete Anslow, Chief Editor)
- Presentations
- Motions, Discussions and Closing Business
- Future Meetings

Task Force Decorum

- 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
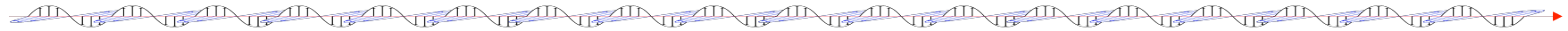
Goals for the meeting

- Review Task Force Operation & Schedule
- Review ad hoc Activities & Reports
- Complete resolution of D1.0 comments and authorize production of D1.1 for TF review
- Presentation of Material Relevant to comment resolution & SMF objective
- Consider Motions & Discussions
  - Authorize generation of D1.1 and proceed to TF review
  - Consider SMF baseline proposals
  - Lay the ground work for the next meeting
- Wrap Up & Future Meeting Discussion
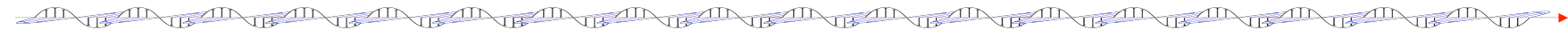
Reflector and Web

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

  with the following in the body of the message (do not include "<>"):
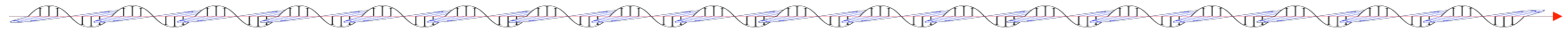   subscribe **stds-802-3-100Goptx** <yourfirstname> <yourlastname>
    end

- Send *Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet* reflector messages to:
    STDS-802-3-100Goptx@LISTSERV.IEEE.ORG
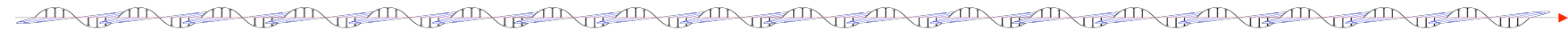
- Task Force web page URL:
    http://www.ieee802.org/3/bm/index.html

Task Force Private Area

- URL: http://www.ieee802.org/3/bm/private/index.html
  - Username:

    To be provided
  - Password:

- 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

- Based upon IEEE 802.3 Rules
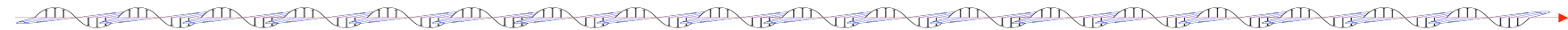 - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote

- **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
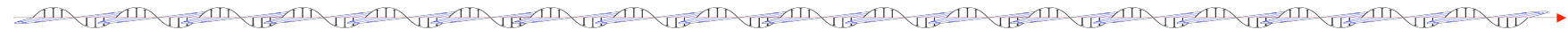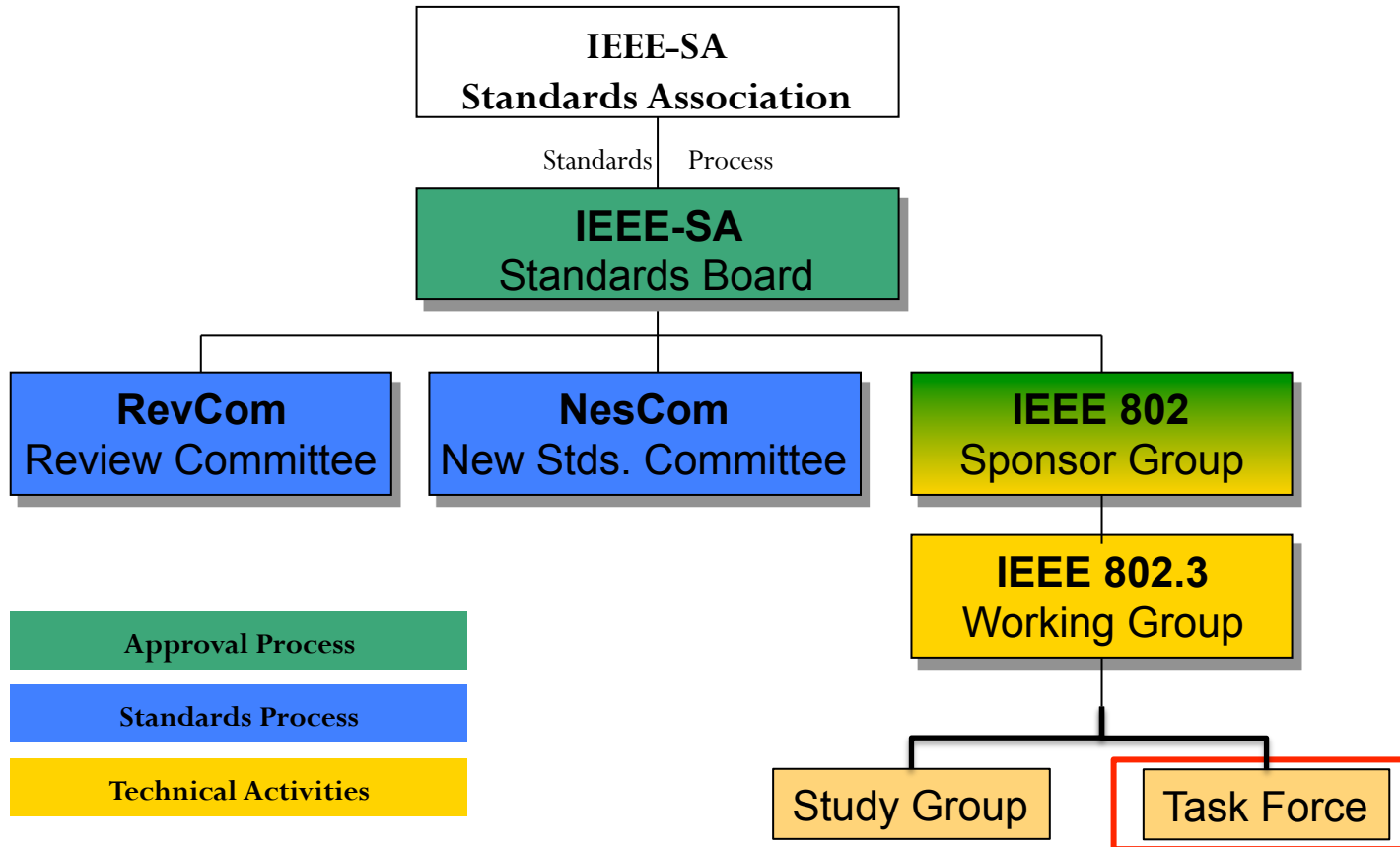
- NO restrictive notices

Attendance

- Tutorial Material on attendance tool
  - http://ieee802.org/3/minutes/mar11/0311_imat.pdf

- URL (Valid for this meeting only)
  - URL: https://imat.ieee.org

IEEE Structure

```
        ┌─────────────────────────┐
        │        IEEE-SA          │
        │  Standards Association   │
        └───────────┬─────────────┘
             Standards │ Process
        ┌───────────┴─────────────┐
        │        IEEE-SA          │
        │     Standards Board      │
        └──────────┬──────────────┘
       ┌───────────┼──────────────────┐
┌──────────────┐ ┌──────────────┐ ┌──────────────┐
│   RevCom     │ │   NesCom     │ │  IEEE 802    │
│   Review     │ │  New Stds.   │ │   Sponsor    │
│  Committee   │ │  Committee   │ │    Group     │
└──────────────┘ └──────────────┘ └──────┬───────┘
                                  ┌───────┴────────┐
                                  │  IEEE 802.3    │
                                  │ Working Group  │
                                  └───────┬────────┘
                              ┌───────────┴──────────┐
                        ┌──────────────┐    ┌──────────────┐
                        │ Study Group  │    │  Task Force  │
                        └──────────────┘    └──────────────┘
```

Legend:
- Approval Process
- Standards Process
- Technical Activities

Important Bylaws and Rules

- **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

- **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

- **IEEE 802.3 Working Group Operating Rules**
 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 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**
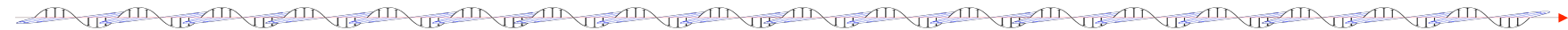
Participants, Patents, and Duty to Inform

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**
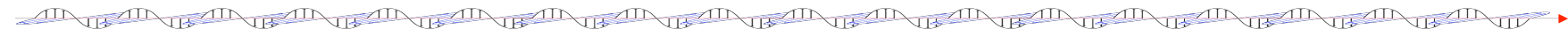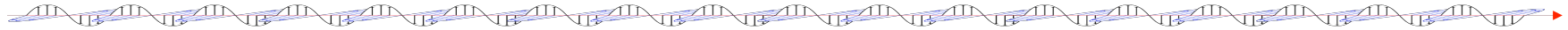
Patent Related Links

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 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**
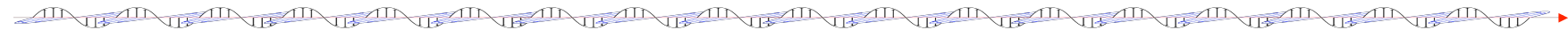
Call for Potentially Essential Patents

- 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

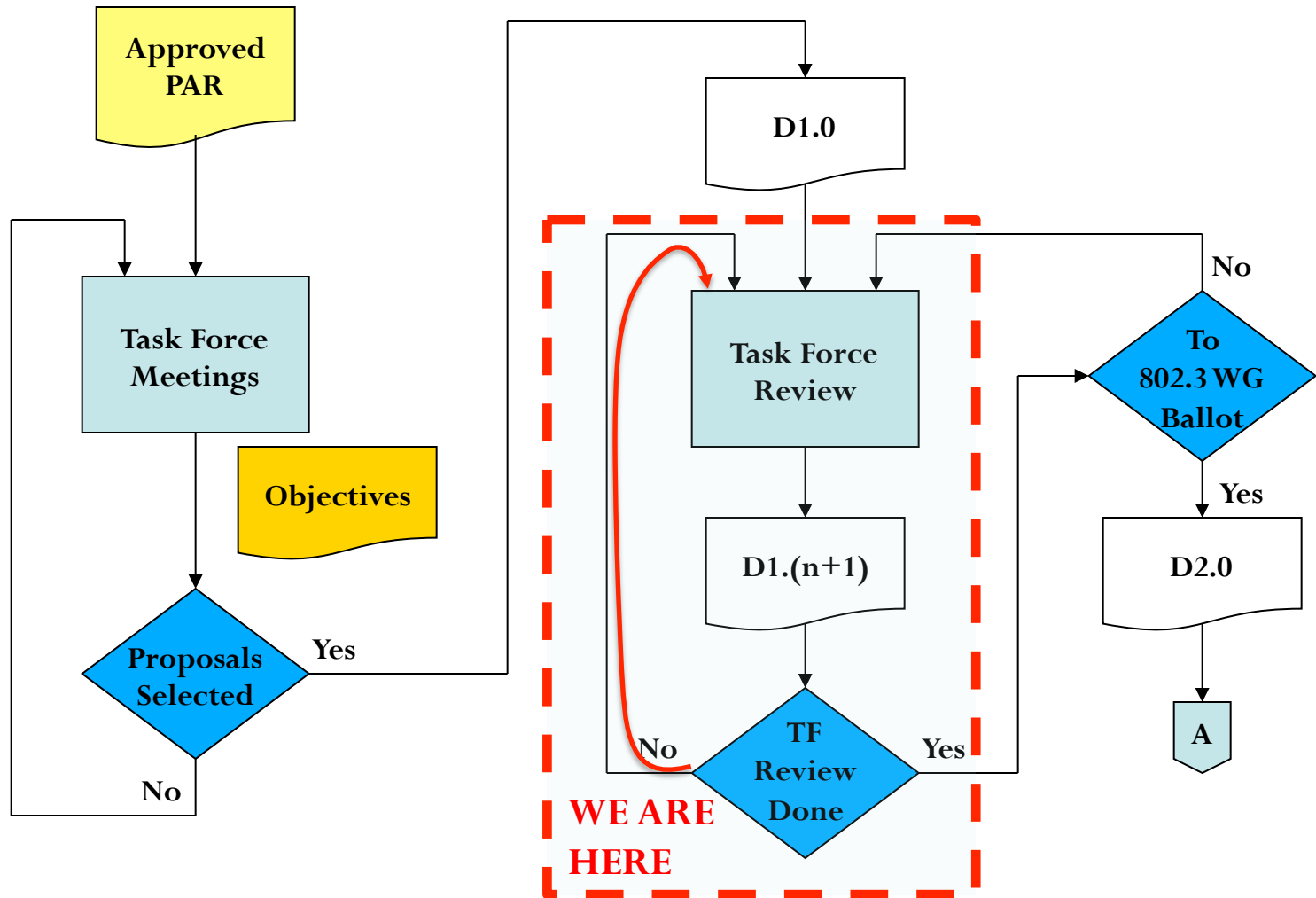 ❖ NOTE TO SECRETARY – Record this Call & Response to Call
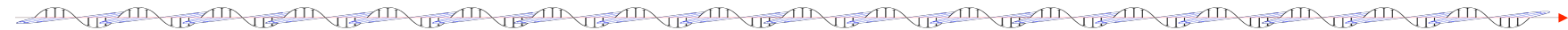
Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase
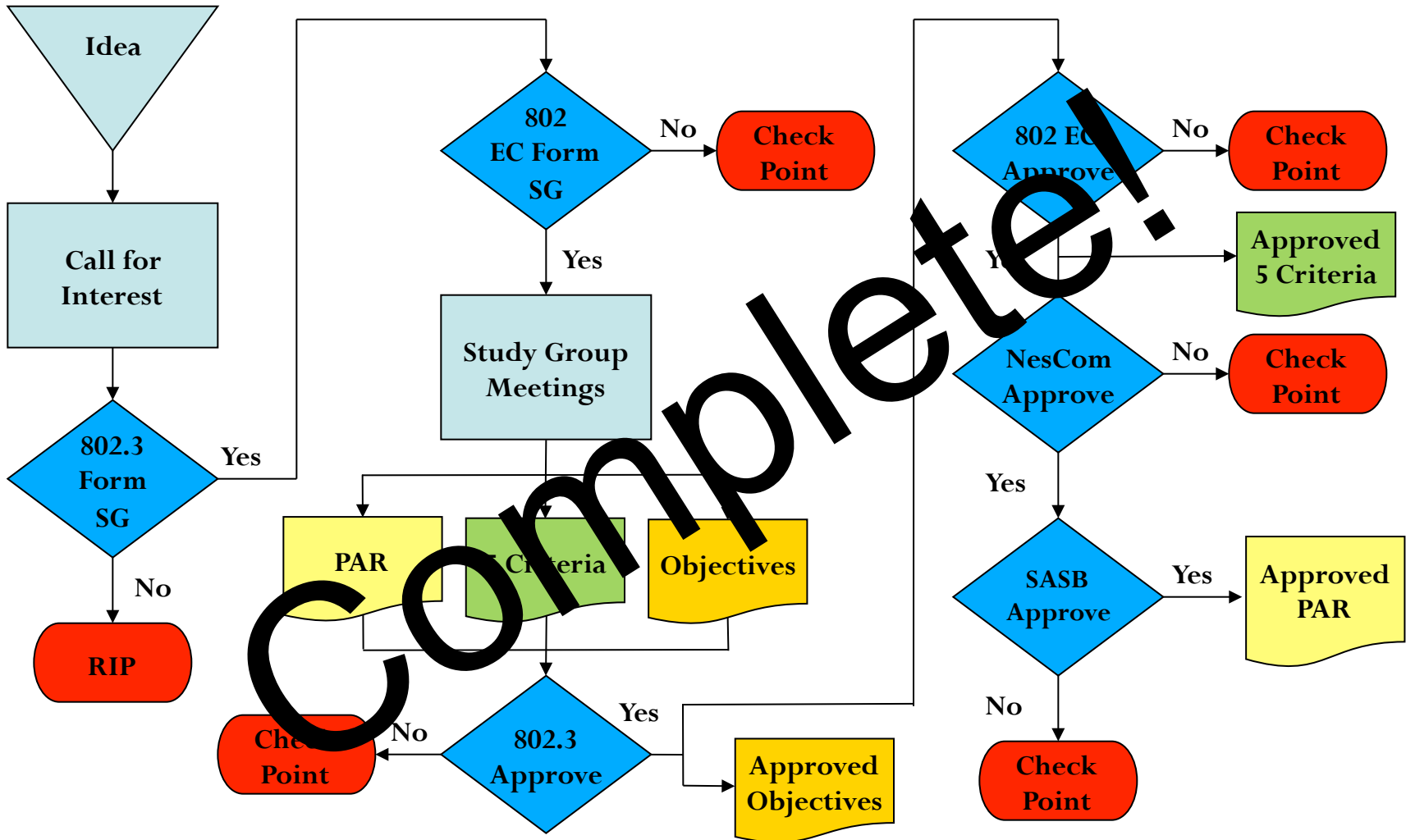
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.
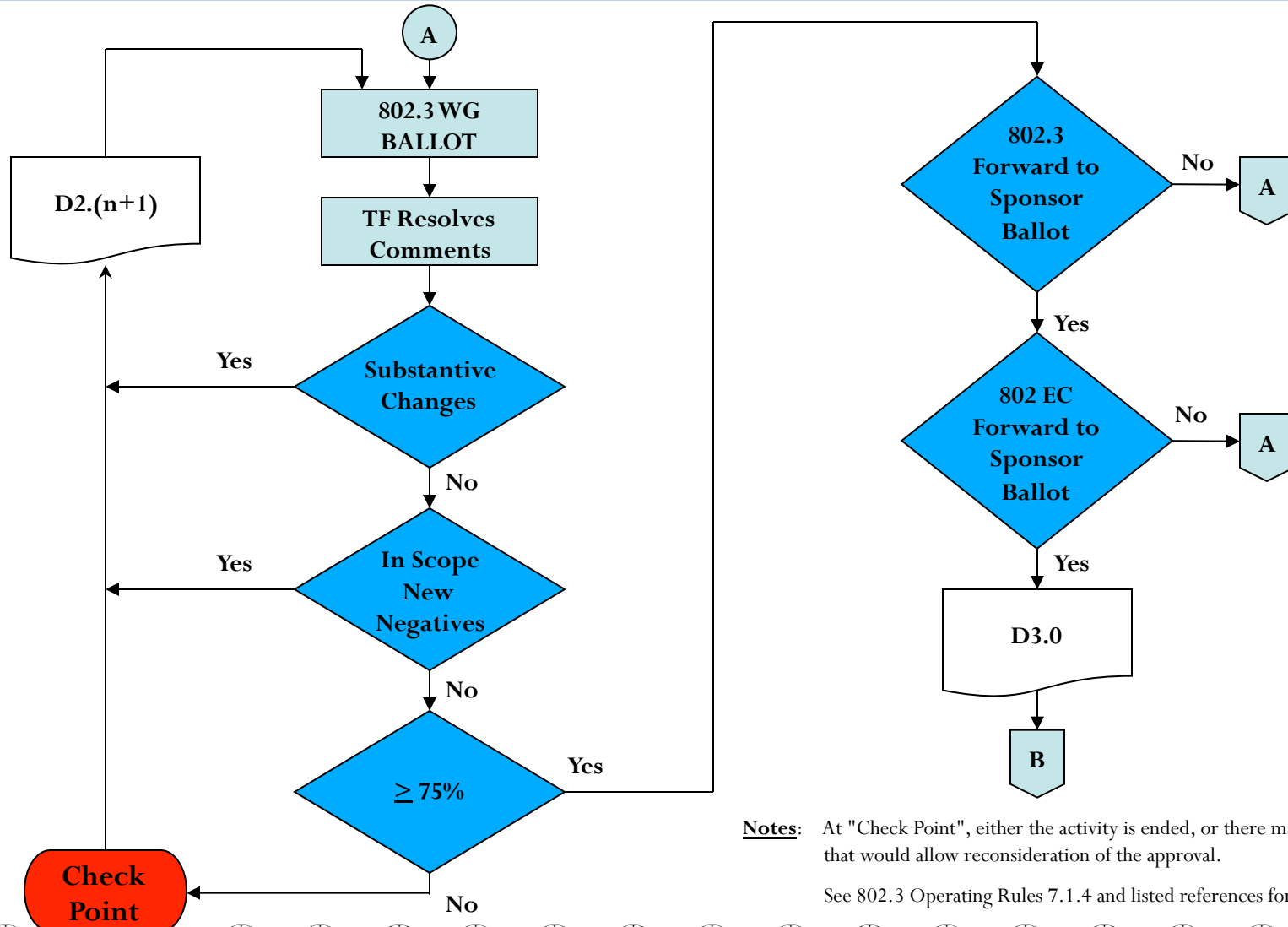
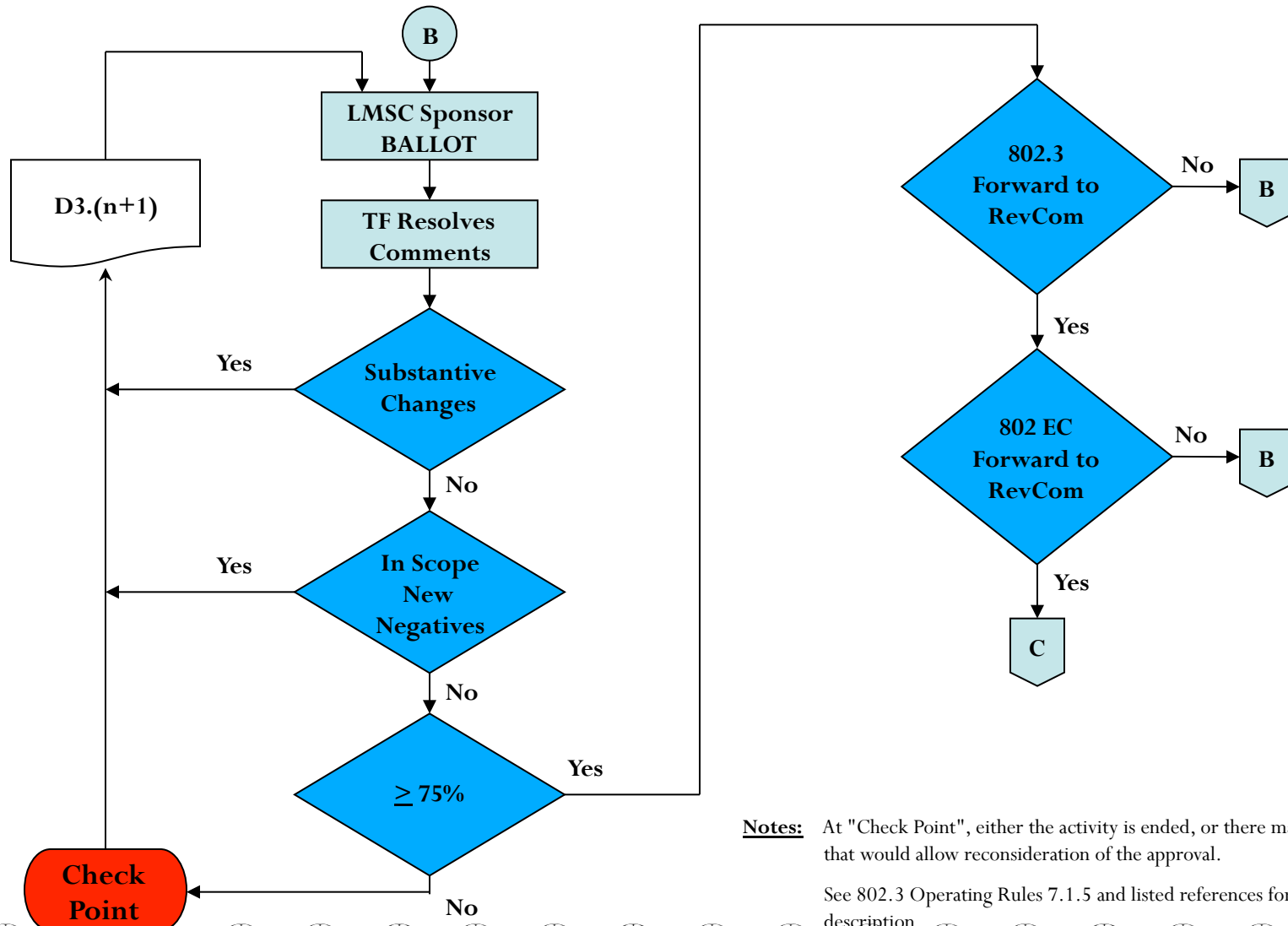# Overview of IEEE 802.3 Standards Process (2/5) – Task Force Comment Phase

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

A

802.3 WG BALLOT

TF Resolves Comments

D2.(n+1)

Substantive Changes — Yes

No

In Scope New Negatives — Yes

No

≥ 75% — Yes / No

Check Point

802.3 Forward to Sponsor Ballot — No → **A**

Yes

802 EC Forward to Sponsor Ballot — No → **A**

Yes

D3.0

B

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
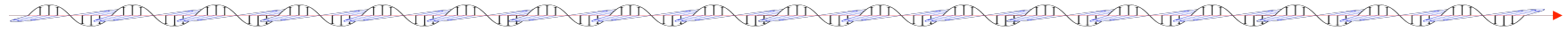
B

LMSC Sponsor BALLOT

TF Resolves Comments

D3.(n+1)

Substantive Changes — Yes

No

In Scope New Negatives — Yes

No

≥ 75% — Yes / No

Check Point

802.3 Forward to RevCom — No → **B**

Yes

802 EC Forward to RevCom — No → **B**

Yes

C

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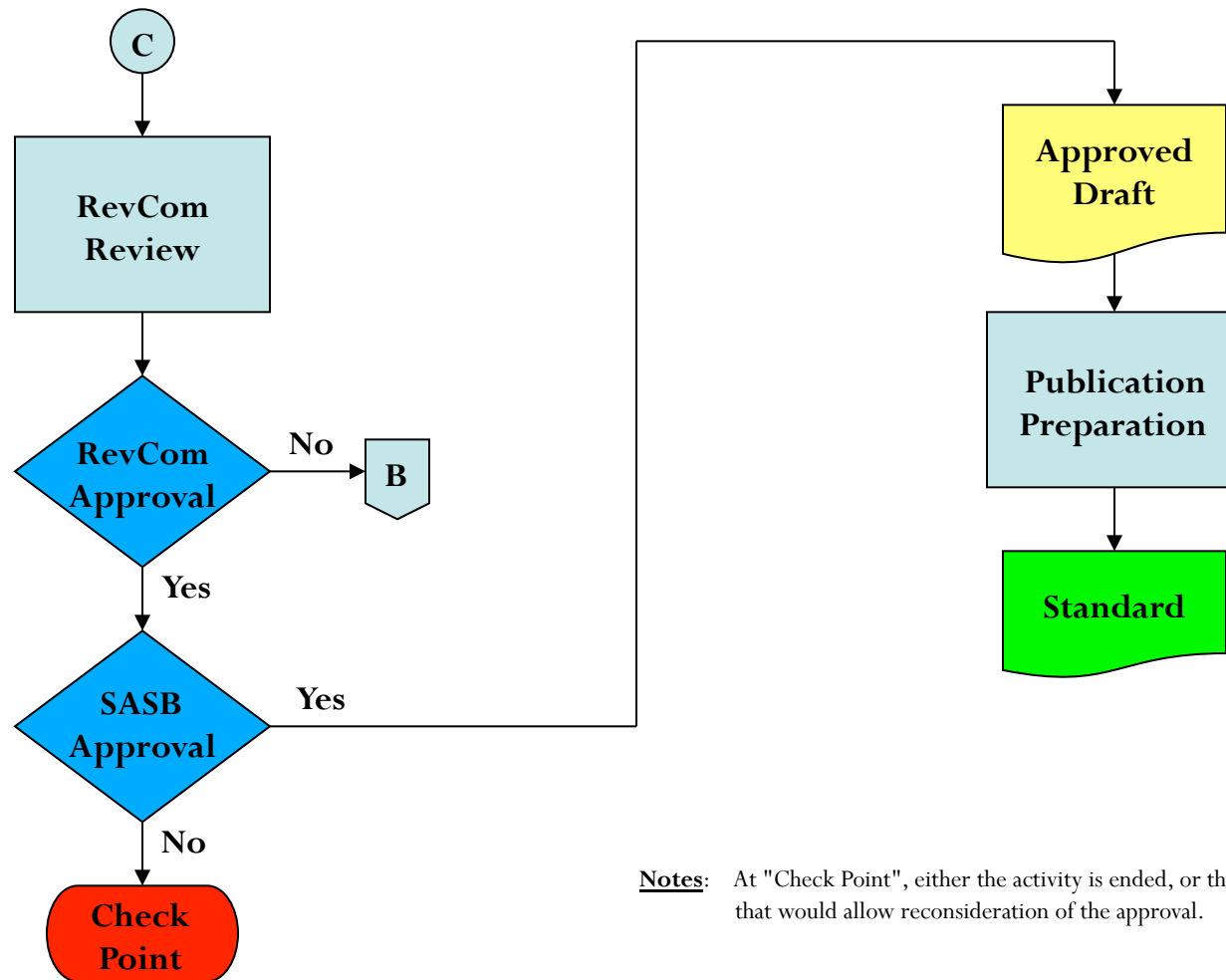
Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

Liaisons and Communications

- **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 May 28th including OIF-28G-VSR and OIF-28G-MR draft documents.
- ITU-T
  - Continued liaison activity to ensure alignment
 - Joint IEEE 802.3 and ITU-T meeting held July
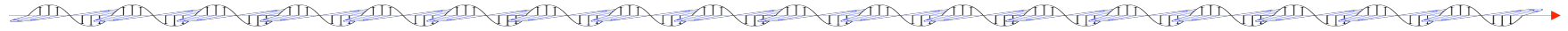
Pending Action Items

- Draft liaison response to OIF

- Complete Baseline Proposals for objectives
    - SMF >500m*

- Draft 1.0 comment resolution

- 5 Criteria Responses indicate that these objectives may be satisfied without a new PMD
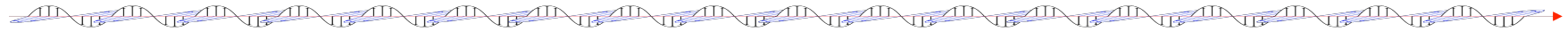- Motion #15 (Victoria, May 2013) allows the TF to consider this proposal outside our adopted timeline.
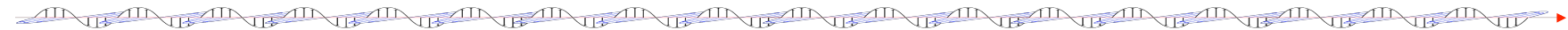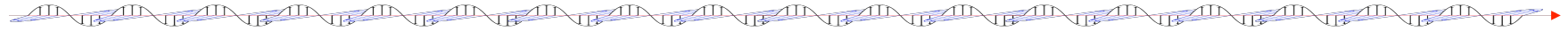
IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet
Approved Project Documents

- ## PAR (as amended in Jan 2013)
  - 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

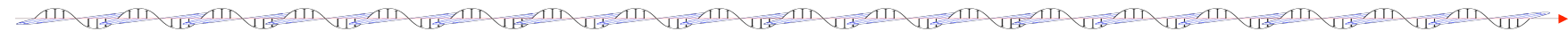- ## Timeline
  - http://www.ieee802.org/3/bm/timeline_0912.pdf
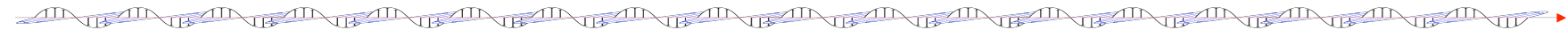
# IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet
Objectives

✧ 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)
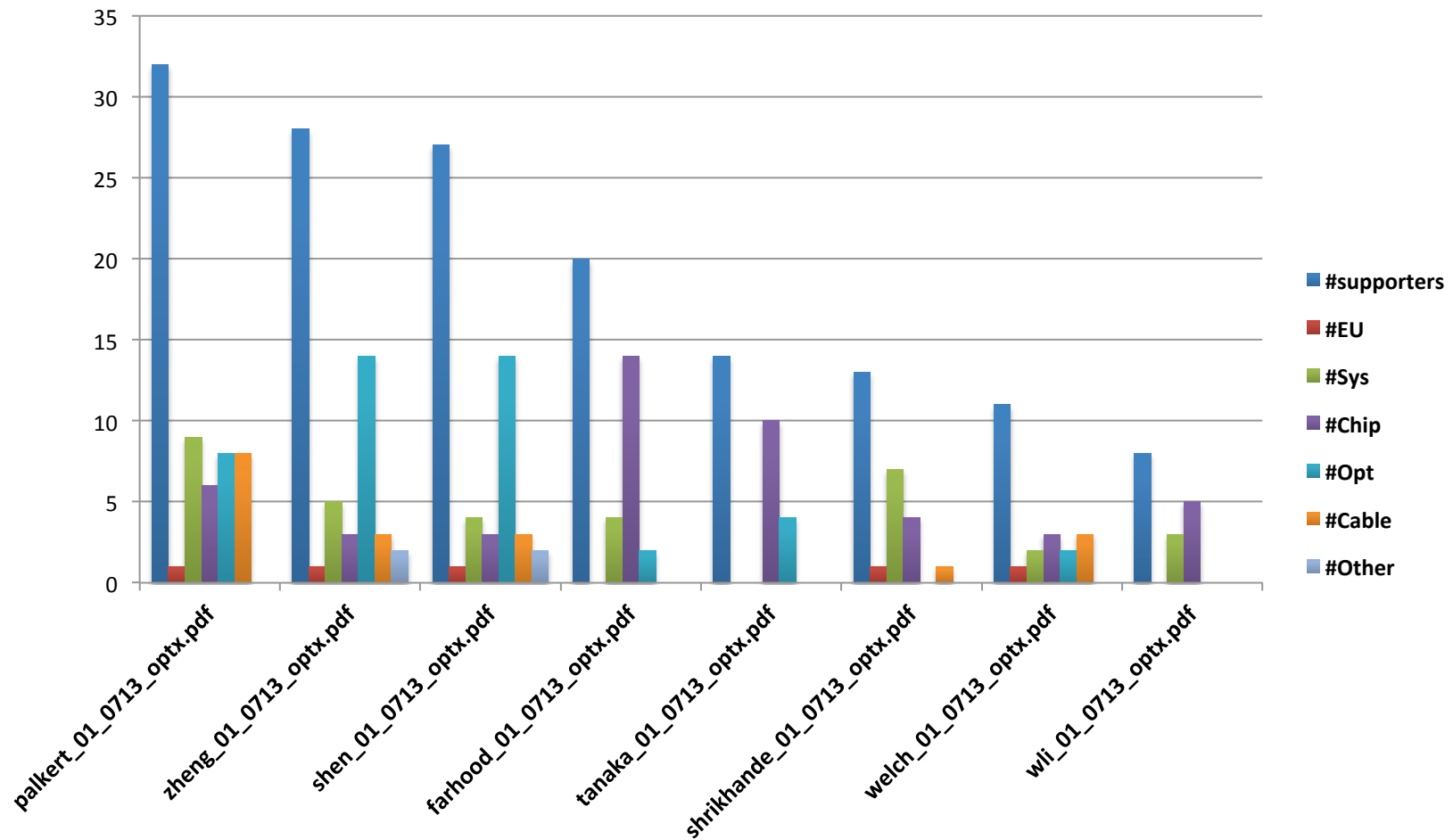❑ (approved by 802.3 November 2012)

IEEE P802.3bm Next Generation 40 Gb/s and 100 Gb/s Optical Ethernet
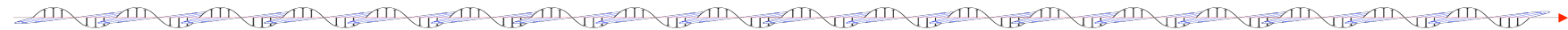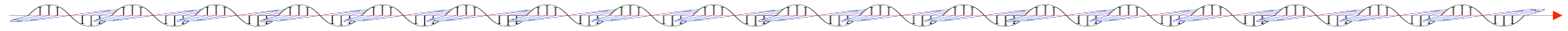## Timeline (Adopted 28th, September 2012)
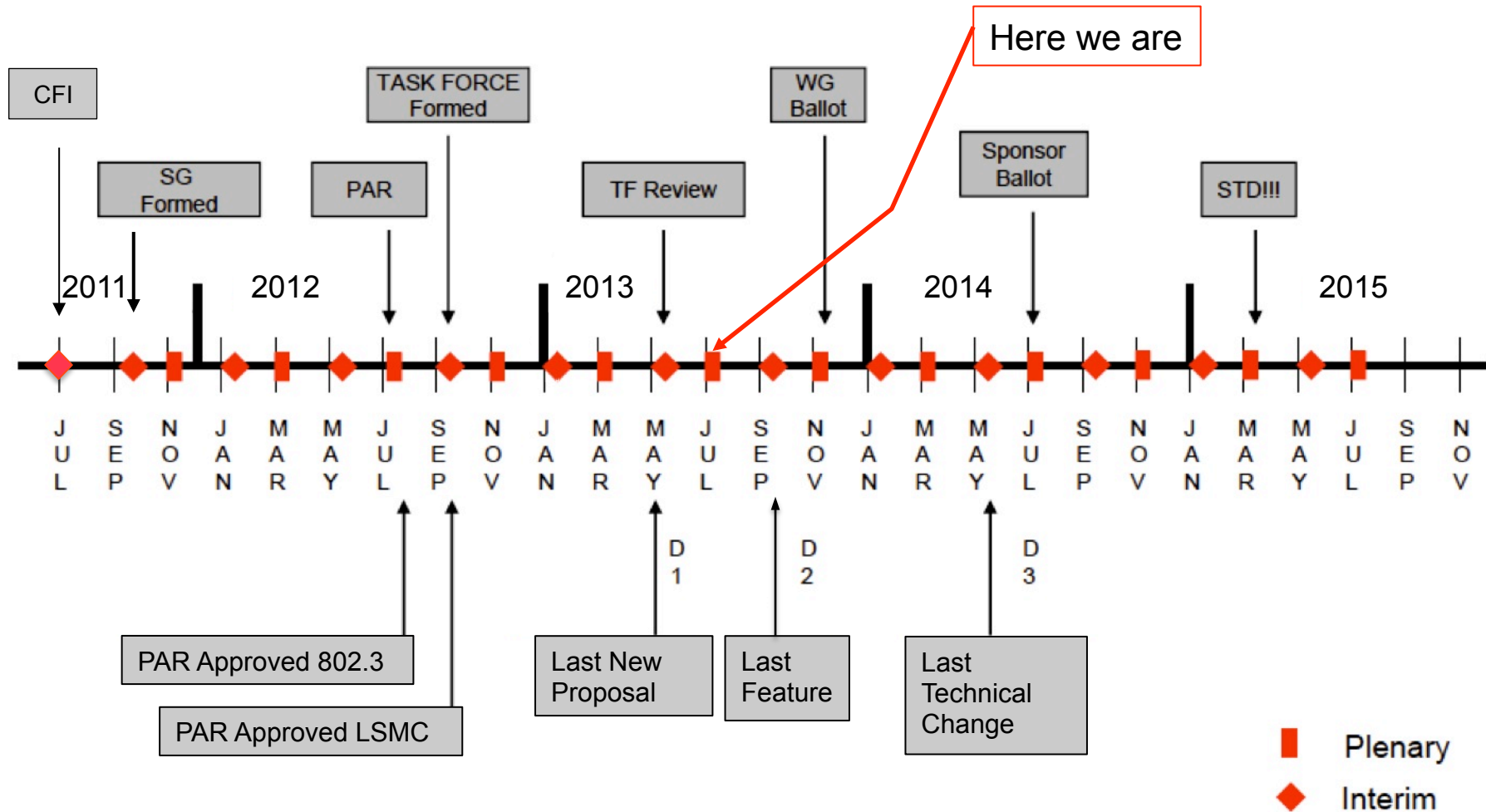
SMF Presentation Supporters As of Submittal Date

Note: Unlisted presentations contained no supporter list

Prioritization

- Prioritization required due to lack of available time to consider baseline presentations for SMF

- flatman_01 was placed ahead of baseline presentations because it was designed for neutrality and provides value to all proposed baselines

- Priority of baseline presentations based on # of presenters first, breadth second

- All presentations are being made available for review

- Supporters lists are allowed to be updated, but will not affect prioritization after submittal date

- Task Force will consider additional presentations if time allows

- Task Force may re-prioritize order of remaining presentations

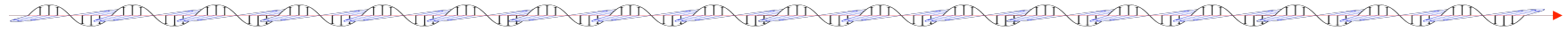# Tuesday Presentations

Tuesday		Start Time	9:00	Discussion Time	10
Presentation Time	Duration	Presenter	Affiliation	Title	Filename
9:00	20	Dan Dove	Applied Micro	Introduction & Agenda	dove_01_0713_optx.pdf
9:20	10	Jonathan King	Finisar	MMF Ad hoc report	king_01_0713_optx.pdf
9:30	10	Ryan Latchman	MindSpeed	CAUI-4 Ad hoc Report	latchman_01_0713_optx.pdf
9:40	10	Pete Anslow	Ciena	SMF Ad hoc report	anslow_01_0713_optx.pdf
9:50	10	Pete Anslow	Ciena	Editor's Opening Report	anslow_02_0713_optx.pdf
10:00	15	BREAK			
10:15	105	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
12:00	60	LUNCH			
13:00	110	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
14:50	15	BREAK			
15:05	175	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
18:00	0	RECESS Till	9:00 AM		

Wednesday Presentations

Wednesday   17-July-2013

Wednesday		Start Time	9:00 AM	Discussion Time	15
Presentation Time	Duration	Presenter	Affiliation	Title	Filename
9:00	10	Dan Dove	Applied Micro	Introduction & Agenda	dove_01_0713_optx.pdf
9:20	40	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
10:00	15	BREAK			
10:15	105	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
12:00	60	LUNCH			
13:00	110	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
14:50	15	BREAK			
15:05	175	Pete Anslow	Ciena	Comment Resolution	P802d3bm_D1p0_comments_rec_ID.pdf
18:00	0	RECESS Till	9:00 AM		

Thursday Presentations

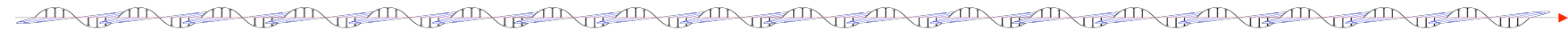| Thursday			Start Time	9:00 AM	Discussion Time	15
Presentation Time	Duration		Presenter	Affiliation	Title	Filename
9:00	10		Dan Dove	Applied Micro	Introduction & Agenda	dove_01_0713_optx.pdf
9:15	20				Housekeeping Motions	
9:35	10		Alan Flatman	LAN Technologies, LTD	PSM in the Data Centre Survey	flatman_01_0713_optx.pdf
9:55	15		Tom Palkert	Luxtera	500 m SMF PSM4 – Baseline Proposal Summary	palkert_01_0713_optx.pdf
10:20	15	BREAK				
10:35	15		Xueyan Zheng	Huawei	100GBASE-CWDM Baseline Proposal Update	zheng_01_0713_optx.pdf
11:00	60				Motions & Discussion	
12:00	0	Adjourn				
	15		Tek Ming Shen	Huawei	CWDM Uncooled Solution with FEC for 500m SMF	shen_01_0713_optx.pdf
	15		Arash Farhood	Cortina-Systems	100GBase-PAM8 draft update	farhood_01_0713_optx.pdf
	10		Toshiki Tanaka	Fujitsu Laboratories Ltd.	100GBASE-DMT draft update	tanaka_01_0713_optx.pdf
	15		Kapil Shrikhande	Dell	In Support of PSM4	shrikhande_01_0713_optx.pdf
	10		Brian Welch	Luxtera	SMF Link Costs Over Time	welch_01_0713_optx.pdf
	10		Weiqi Li	Photop Technologies	Low Cost Component Feasibility for 100GBASE-CWDM CFP4 Modules	wli_01_0713_optx.pdf
	10		Tom Issenhuth	Microsoft	Parallel Fiber, a Data Center Operator's Perspective	issenhuth_01_0713_optx.pdf
	10		John Petrilla	Avago Technologies	100G PSM4 Link Model & Results Update, TDP, Tx Eye Mask & SRS	petrilla_01_0713_optx.pdf
	15		Piers Dawe	Mellanox	Specification for 100GBASE-DR4	dawe_01_0713_optx.pdf

*Note: Yellow cells indicate "pending available time"

Future Meetings

- See: http://www.ieee802.org/3/interims/index.html
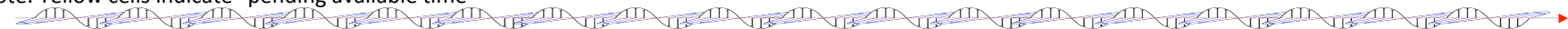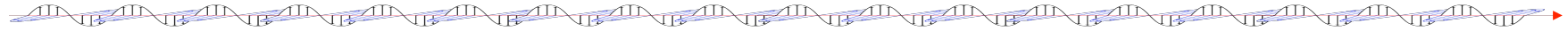
- **Week of Sept 2, 2013 (Interim)**
  - **York Racecourse Conference Center**
  - **York, UK**
  - **Hosted By: ADVA**

- **Week of Nov 11, 2013 (Interim)**
  - **Hyatt Regency Dallas**
  - **Dallas, TX**
  - **USA**

- **Week of Jan 20, 2013 (Interim)**
- **IEEE P802.3 interim session**
  - **All IEEE 802.3 Task Force and Study Groups will meet**
- **Hyatt Regency Indian Wells, CA, USA**
- **Hosted by: XILINX**

- Anyone interested in hosting a meeting contact Steve Carlson.

Thank You!