

# Agenda and General Information

IEEE P802.3bq 40GBASE-T Task Force

David Chalupsky, Intel

Geneva, Switzerland  
July, 2013

# Agenda

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- Welcome and Introductions
- Approve Agenda
- Approve minutes from last meeting
- Goals for this meeting
- Reflector and Web
- Ground Rules
- IEEE
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Big Ticket Items
- Liaisons and Communications
- Presentations
- Motions and Closing Business
- Future Meetings

# P802.3bq Organization

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- David Chalupsky, Chair
- Bill Woodruff, Vice Chair
- George Zimmerman, Secretary
- Channel Modeling ad hoc
  - Pete Cibula and Brad Booth, co-Chairs

# Motion #1

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- Approve the agenda
- M:
- 2<sup>nd</sup>:
- Result:

# Motion #2

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- Approve the minutes from the May meeting.
- M:
- 2<sup>nd</sup>:
- Result:

# Task Force Decorum



- Photography or recording by permission only (2010 SASE 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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- Hear technical presentations related to architecture, link segment performance and channel modeling.
- Identify areas of future work which will lead us to a baseline proposal which meets the project objectives.
- Lay the ground work for the next meeting

# Reflector and Web

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- To subscribe to the 802.3bq reflector, send an email to:

[ListServ@ieee.org](mailto:ListServ@ieee.org)

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

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subscribe stds-802-3-NGBASET <yourfirstname> <yourlastname>  
end
```

- Send 802.3bq reflector messages to:

[STDS-802-3-NGBASET @listserv.ieee.org](mailto:STDS-802-3-NGBASET@listserv.ieee.org)

- Task Force web page URL:

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



# Task Force Private Area

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- URL: <http://www.ieee802.org/3/bq/private/index.html>
- Username: 802.3bq
  - 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

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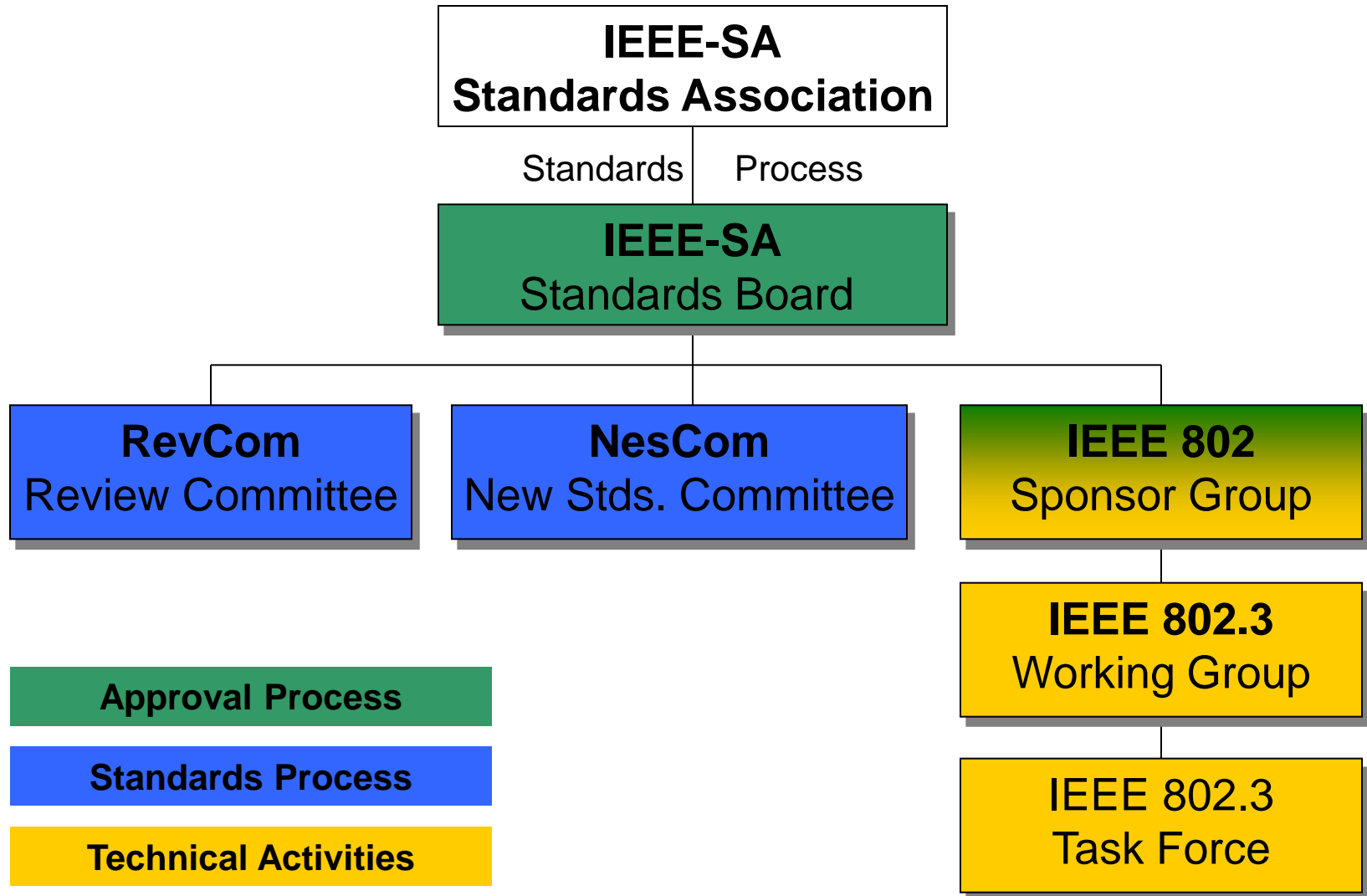
- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- 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: <http://newton.events.ieee.org>
- Please sign the 802.3bq attendance book that will be circulated each day
  - IMAT records attendance for 802.3 records
  - Our book records for 802.3bq minutes

# IEEE Structure



# Important Bylaws and Rules

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- **IEEE-SA Operations Manual**  
[http://standards.ieee.org/develop/policies/sa\\_opman/](http://standards.ieee.org/develop/policies/sa_opman/)
- **IEEE-SA Standards Board Bylaws**  
<http://standards.ieee.org/develop/policies/bylaws/>
- **IEEE-SA Standards Board Operations Manual**  
<http://standards.ieee.org/develop/policies/opman/>
- **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/devdocs.shtml>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures**  
<http://www.ieee802.org/devdocs.shtml>
- **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)

# Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- Show slides #1 through #4 of this presentation
- Advise the WG attendees that:
  - The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
  - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
  - There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
- Instruct the WG Secretary to record in the minutes of the relevant WG meeting:
  - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
  - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
  - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.
- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
- It is recommended that the WG chair review the guidance in *IEEE-SA Standards Board Operations Manual* 6.3.5 and in FAQs 12 and 12a on inclusion of potential Essential Patent Claims by incorporation or by reference.

Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.



# 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](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

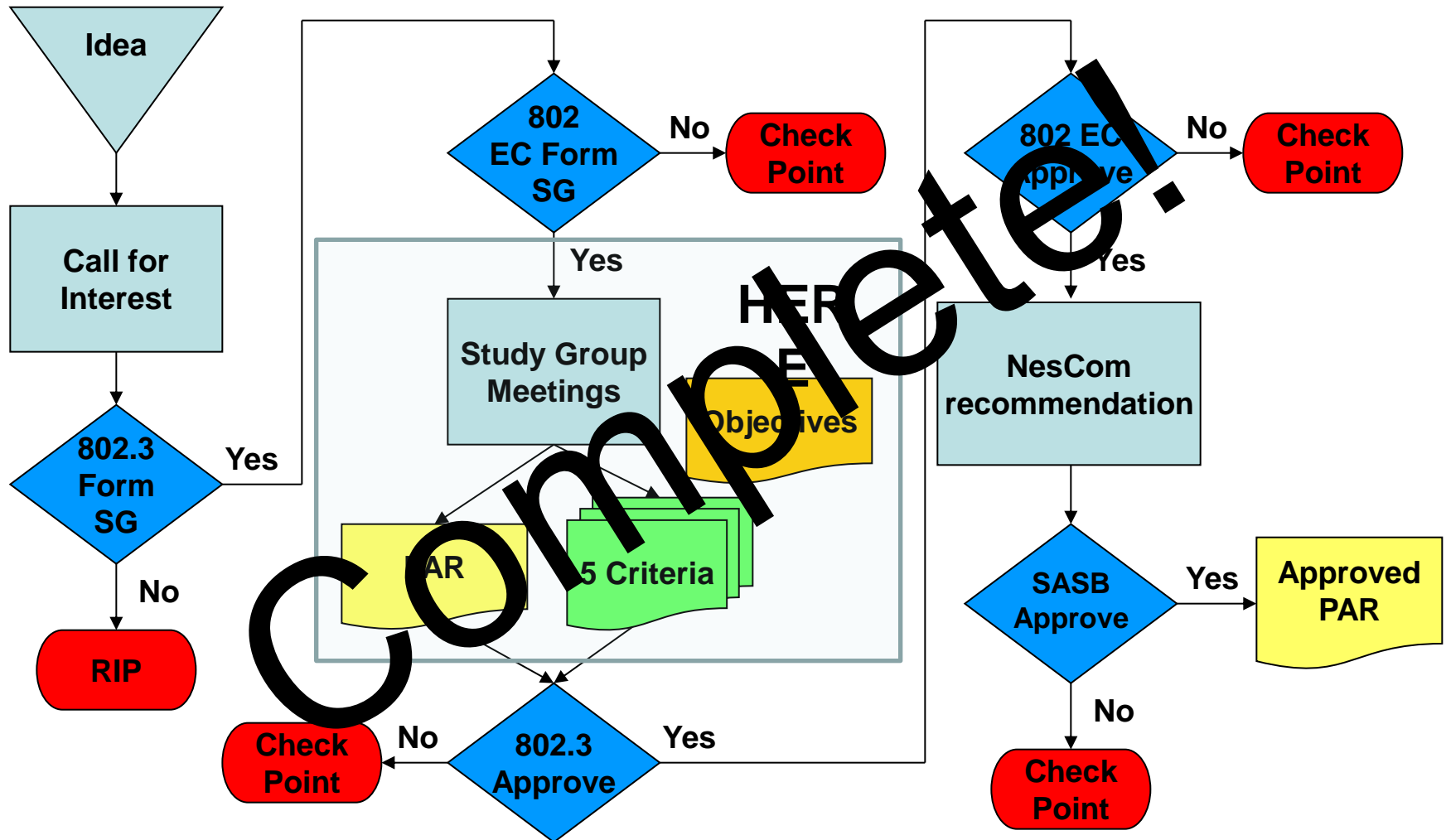
- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
  - Either speak up now or
  - Provide 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

# Other Guidelines for IEEE WG 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.**

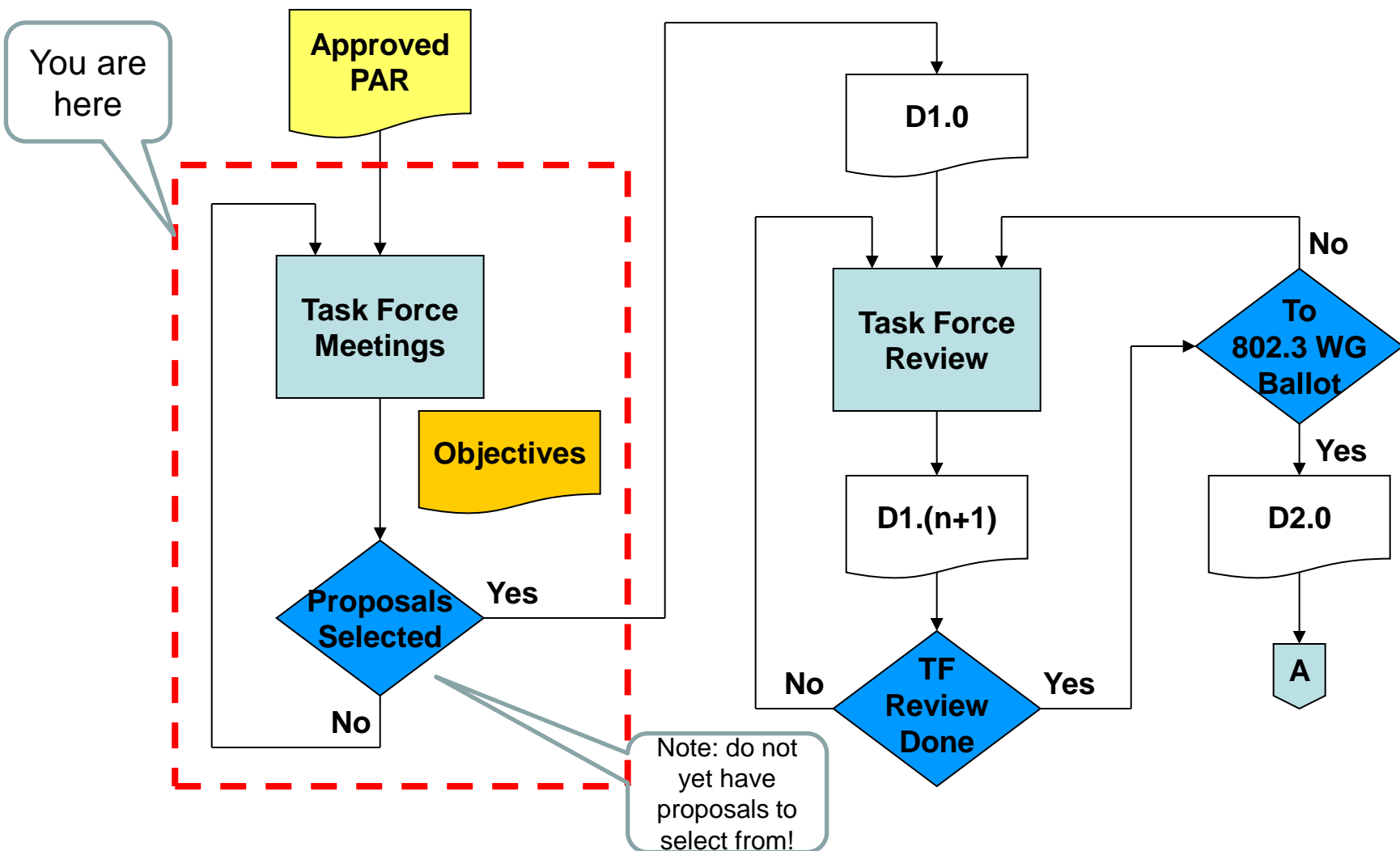
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See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association’s Antitrust and Competition Policy” for more details.

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

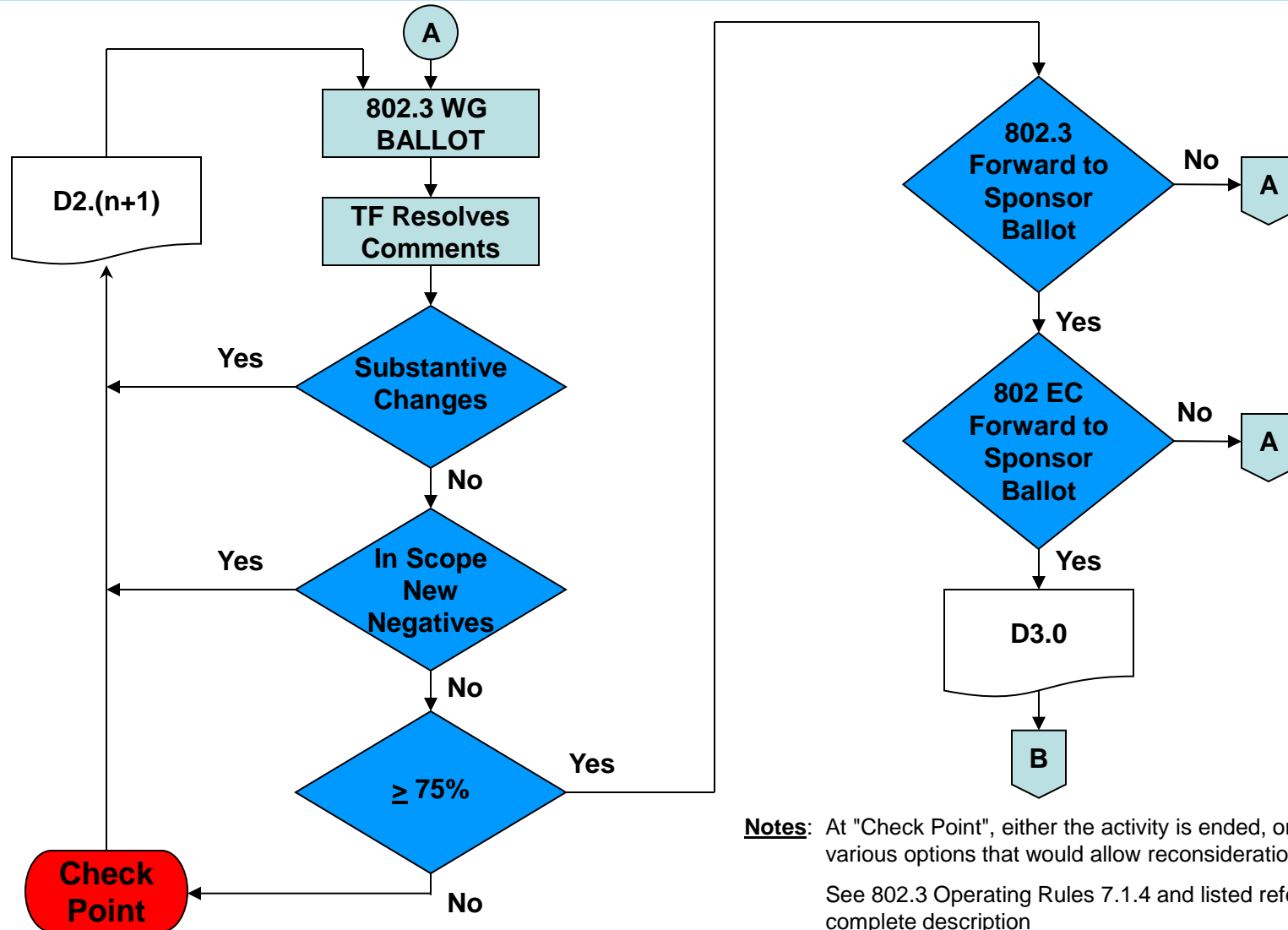


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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

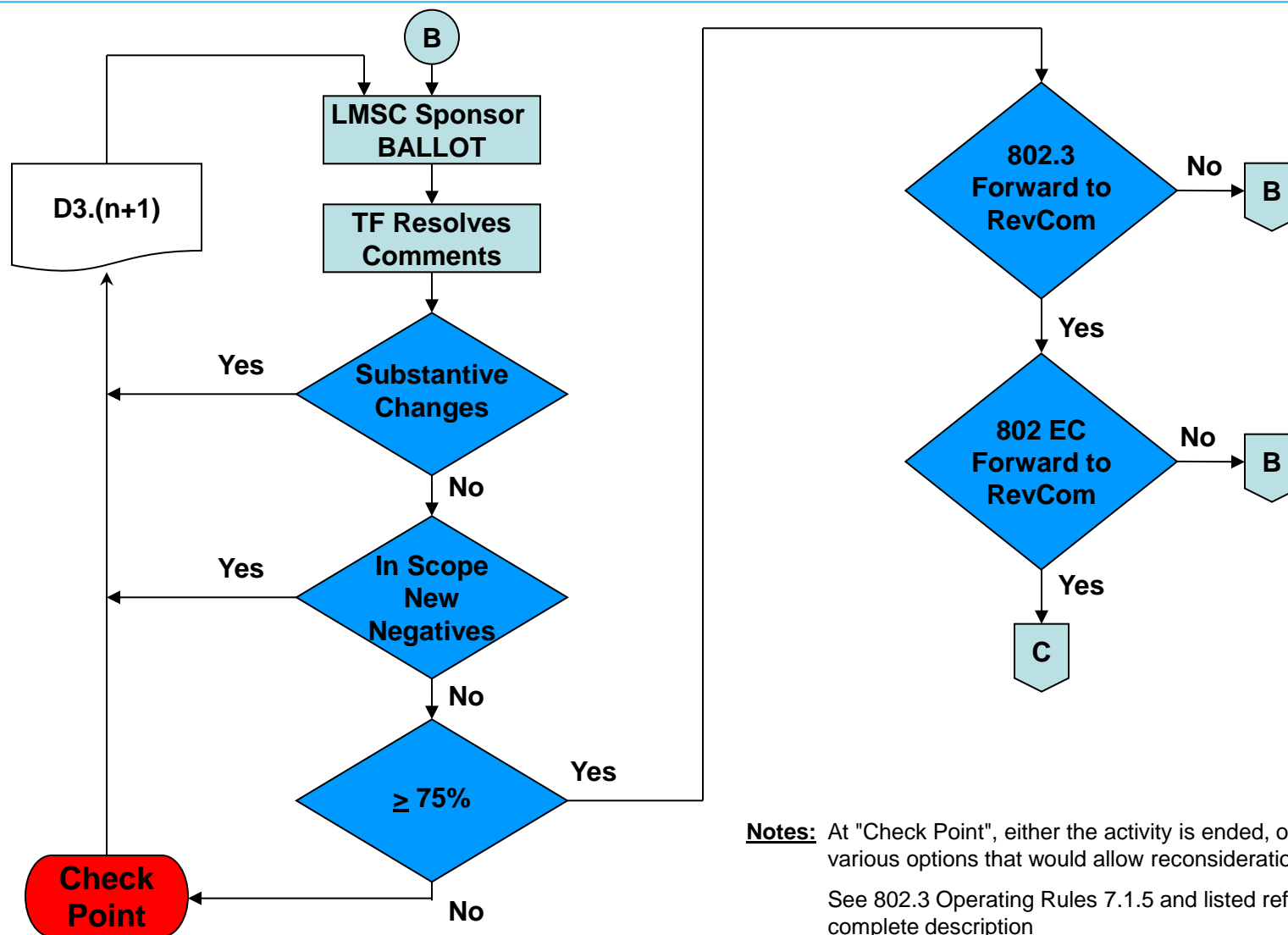


# Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



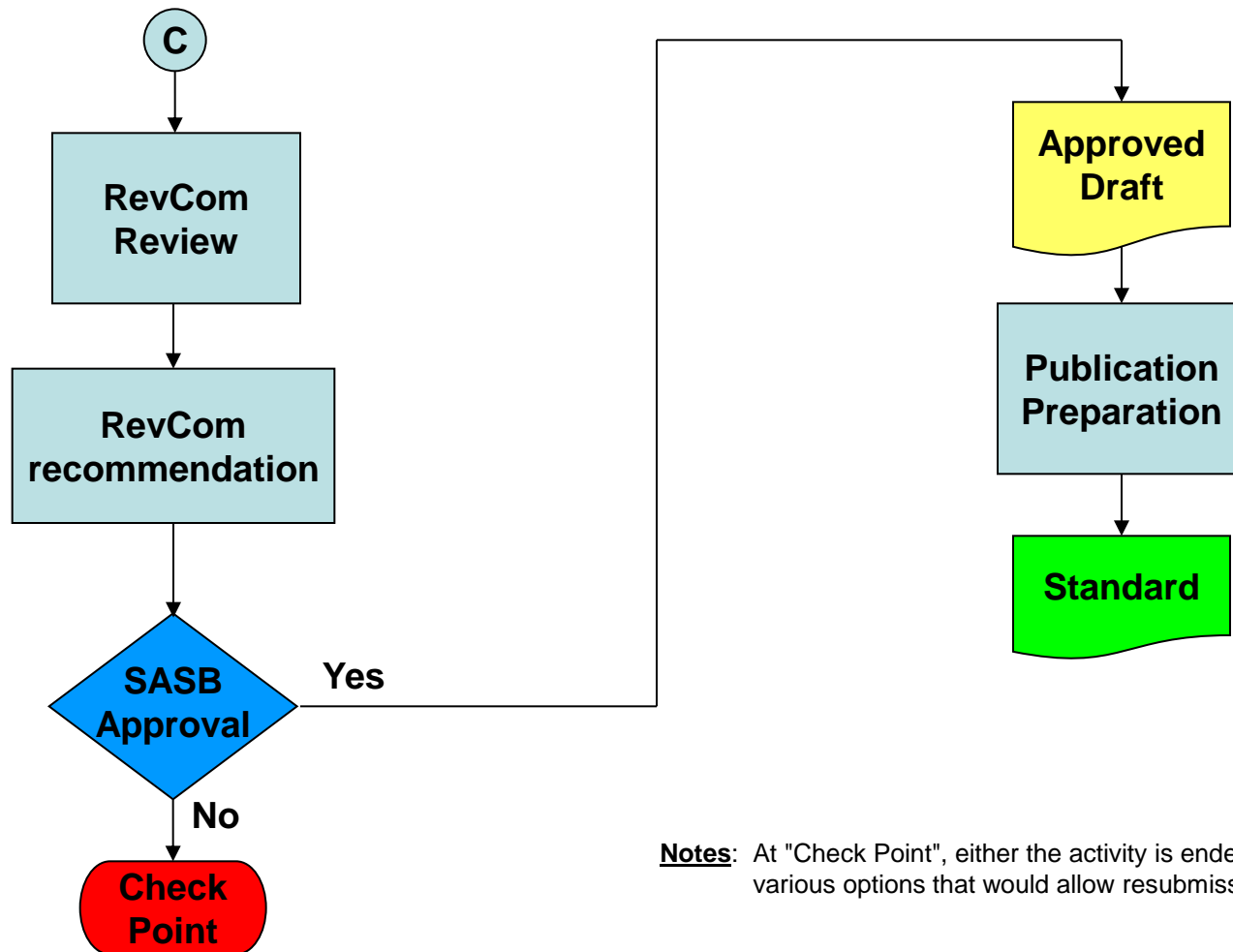
**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval. See 802.3 Operating Rules 7.1.4 and listed references for complete description

# 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 resubmission for approval.

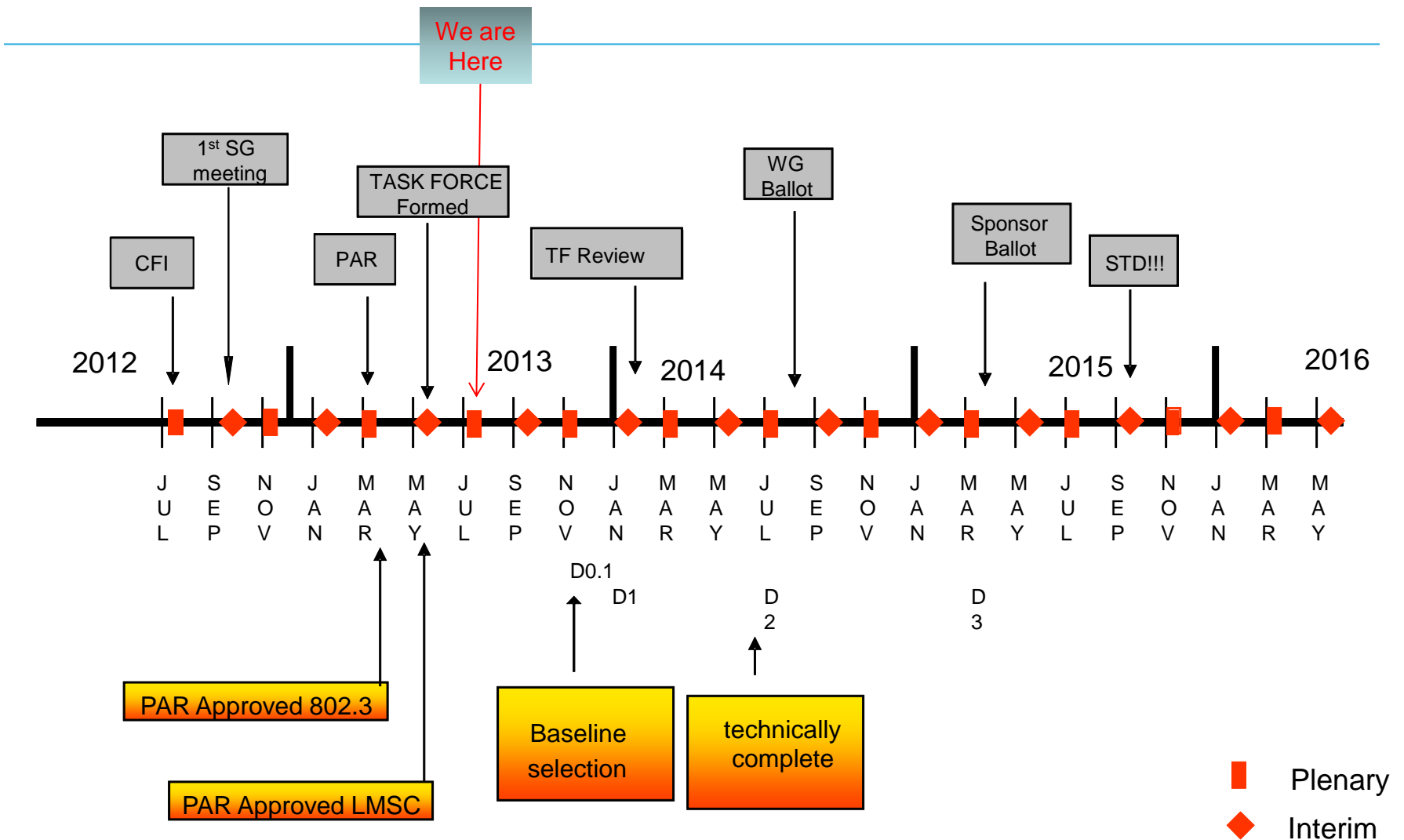
# Big ticket items

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- Completion of channel models
- Consideration of architectural issues
- Generation of, and consensus on, a baseline proposal
  
- Completion of this work has a very direct implication on the project schedule!



# Possible Project Timeline



# Liaisons and Communications

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- No new incoming liaisons since last meeting
- Respond to prior ISO/IEC JTC1 SC25 WG3 liaison at this meeting
  - Review & approve draft response in this meeting.
  - Needs to be approved by 802.3 at the closing plenary

# IEEE P802.3bq 40GBASE-T Task Force Approved Project Documents

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- PAR
  - <http://www.ieee802.org/3/bq/P802.3bq.pdf>
- 5 Criteria
  - <http://www.ieee802.org/3/bq/5Criteria.pdf>
- Objectives
  - <http://www.ieee802.org/3/bq/Objectives.pdf>

# IEEE P802.3bq 40GBASE-T Objectives

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- Support full duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum Frame Size of current 802.3 standard
- Support a BER better than or equal to  $10^{-12}$  at the MAC/PLS service interface
- Support Auto-Negotiation (Clause 28)
- Support Energy Efficient Ethernet (Clause 78)
- Support local area networks using point-to-point links over structured cabling topologies, including directly connected link segments
- Do not preclude meeting FCC and CISPR EMC requirements
- Support a data rate of 40 Gb/s at the MAC/PLS Service Interface
- Define a link segment based upon copper media specified by ISO/IEC JTC1/SC25/WG3 and TIA TR42.7 meeting the following characteristics:
  - 4-pair, balanced twisted-pair copper cabling
  - up to 2 connectors
  - up to at least 30 m
- Define a single 40 Gb/s PHY supporting operation on the link segment

# Note to Presenters

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- New filename conventions:
  - *presentername\_3bq\_XYr\_mmyy.pdf*
  - *XY* is presentation number, i.e. 01, 02 ,03
  - Revisions (r) are a,b,c, etc.
  - Example: carlson\_3bq\_01a\_0713.pdf
  - This is consistent with the newer projects, perhaps not the mature projects...

# Presentations

Duration	Time	Title	Presenter	Affiliation	File Name
0:30	8:30 AM	Agenda and General Information	David Chalupsky	Intel	agenda_3bq_01_0713.pdf
0:30	9:00 AM	Architectural Issues for 40GBASE-T	Hugh Barrass	Cisco	barrass_3bq_01_0713.pdf
0:15	9:30 AM	Special Study Global Data Centres End-user Results Copper Cabling Extracts	Alan Flatman	LAN Technologies	flatman_3bq_01_0713.pdf
0:15	9:45 AM	Channel Modeling Ad Hoc Report	Pete Cibula	Intel	cibula_3bq_01_0713.pdf
0:20	10:00 AM	40GBASE-T PHY- Channel insertion loss	Chris DiMinico	MC Communications, Panduit	diminico_3bq_01_0713.pdf
0:20	10:20 AM	<b>BREAK</b>			
0:20	10:40 AM	Impact of Channel Configuration to RL	Martin Rossbach	Nexans	rossbach_3bq_01_0713.pdf
0:20	11:00 AM	Improved Transmission Characteristics of Channels utilizing IEC Standard Connectors Test Data and Information	Yakov Belopolsky	Bel Stewart	belopolsky_3bq_01_0713.pdf
0:10	11:20 AM	Some Data on Production Channels and Components and Prototype Components	Wayne Larsen	Commscope	larsen_3bq_01_0713.pdf
0:10	11:30 AM	Cabling Return Loss	Wayne Larsen	Commscope	larsen_3bq_02_0713.pdf
0:10	11:40 AM	A Quick Look at Connectors	Wayne Larsen	Commscope	larsen_3bq_03_0713.pdf
0:20	11:50 AM	Cabling Developments in Support of 40GBASE-T	Wayne Larsen	Commscope	larsen_3bq_04_0713.pdf
0:15	12:10 PM	Expected Performance of ISO/IEC Class II Cabling	Val Maguire	Siemon Company	maguire_3bq_01_0713.pdf
2:05	12:25 PM	<b>LUNCH</b>			
0:20	2:30 PM	Class I vs. Class II Cabling	Alan Flatman	LAN Technologies	flatman_3bq_03_0713.pdf
0:30	2:50 PM	ISO Liaison Response Review	Alan Flatman	LAN Technologies	
0:20	3:20 PM	Discussion, Motions & Straw Polls			
0:20	3:40 PM	Closing, future logistics			
0:30	4:00 PM	Adjourn			

Note –Times listed are subject to change.



# Future Meetings

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- See: <http://www.ieee802.org/3/interims/index.html>
- September 2013 joint interim
  - Week of September 2, York Racecourse Conference Center, York UK
- November 2013 plenary
  - Week of November 11, Dallas Texas
- January 2014 interim
  - Week of January 20, Indian Wells, CA
  
- Anyone interested in hosting a interim meeting contact the IEEE 802.3 Executive Secretary [Steve Carlson](#).

# Future Meetings Straw Poll

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- September 2013 joint interim, York
  - YES! -
  - Maybe yes -
  - Probably not -
  - NO! -
- November 2013 plenary, Dallas
  - YES! -
  - Maybe yes -
  - Probably not -
  - NO! -



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# Thank You!