Agenda and General Information

IEEE 802.3cd

50 Gb/s, 100 Gb/s and 200 Gb/s Ethernet Task Force

Mark Nowell, Cisco

San Diego, CA, USA

Week of July 9th, 2018

Agenda

- Welcome and Introductions
- Approve Agenda
- Approve Minutes
- Reflector and Web
- Ground Rules
- IEEE
    - Structure, Bylaws and Rules
    - Call for Patents
    - IEEE Standards Process
- Liaisons and Communications
- Ad hocs
- Task Force documentation
- Schedule
- Goals for this meeting
- Meeting Schedule
- Future Meetings
- Motions and Closing Business

P802.3cd Task Force organization

- Chair: Mark Nowell, Cisco

- Recording Secretary: Kent Lusted, Intel

- Chief Editor: Matt Brown, Macom

- Ad hoc chair: Kent Lusted, Intel

Task Force Decorum

- An officer is permitted to make an audio or slideshow recording of this meeting exclusively for the purpose of generating minutes which shall not be copied or distributed. **IEEE 802.3 meetings do not use this option.** Recording of the proceedings by any other participant or observer, in part or in whole, via any means, is prohibited. (December 2017 IEEE-SA Standards Board Ops Manual 5.3.3.2)
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (December 2017 IEEE-SA Standards Board Ops Manual 5.3.3.3)
- Cell phone ringers off
- 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

Reflector and Web

- To subscribe to the Task Force's reflector, send an email to:

  ListServ@ieee.org

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

  subscribe **stds-802-3-50G** *<yourfirstname> <yourlastname>*

  end

- Send Task Force reflector messages to:

  stds-802-3-50G@listserv.ieee.org

- Task Force's web page URL:

  http://www.ieee802.org/3/cd/index.html

Task Force Private Area

- http://www.ieee802.org/3/cd/private/index.html
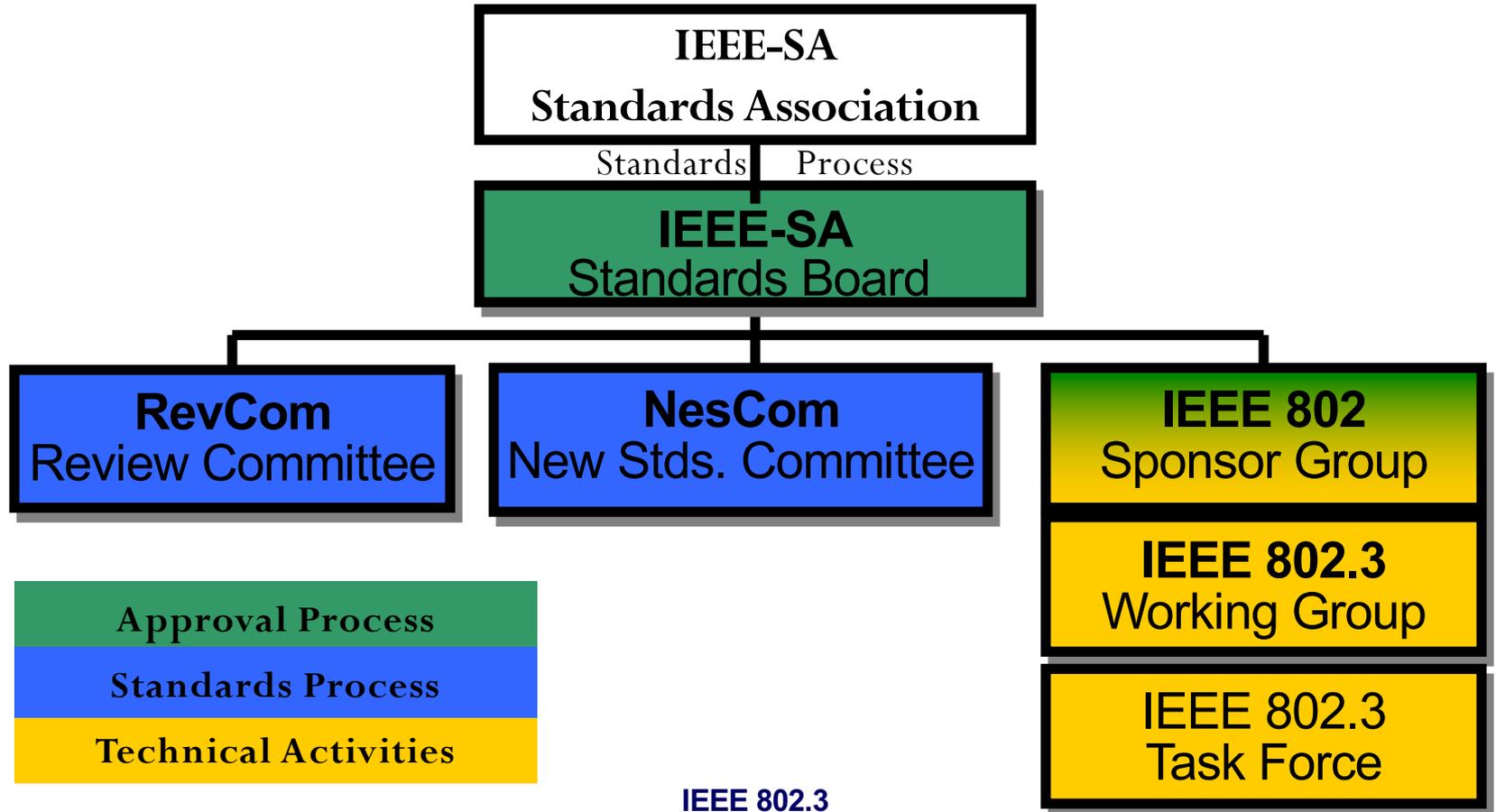

- U: 802.3cd
- P: xxxxxx

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
- NO product pitches
- NO corporate pitches
- 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/attendance_procedures.pdf

- Access details
  - URL: http://imat.ieee.org/
  - Use your imat login
    - (must be on meeting SSID – no VPN)

IEEE Structure

IEEE-SA
Standards Association

Standards Process

IEEE-SA
Standards Board

RevCom
Review Committee

NesCom
New Stds. Committee

IEEE 802
Sponsor Group

IEEE 802.3
Working Group

IEEE 802.3
Task Force

Approval Process

Standards Process

Technical Activities

IEEE 802.3

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Important Bylaws and Rules

- **IEEE-SA Operations Manual**
  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

IEEE 802.3

Participation in IEEE 802 Meetings

Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis

- **Participants in the IEEE standards development individual process shall act based on their qualifications and experience. (https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf   section 5.2.1)**

- **IEEE 802 Working Group membership is by individual; "Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives". (subclause 4.2.1 "Establishment", of the IEEE 802 LMSC Working Group Policies and Procedures)**

- **Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant's obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.**

- **Participants shall not direct the actions or votes of any other member of an IEEE 802 Working Group or retaliate against any other member for their actions or votes within IEEE 802 Working Group meetings, see https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf   section 5.2.1.3 and the IEEE 802 LMSC Working Group Policies and Procedures, subclause 3.4.1 "Chair", list item x.**

By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate.

(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: http://www.ieee802.org/devdocs.shtml)

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Participants have a duty to inform the IEEE

- Participants 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

- Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims

Early identification of holders of potential Essential Patent Claims is encouraged

Ways to inform IEEE

- **Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); 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**

- **Speak up now and respond to this 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, please respond at this time by providing relevant information to the WG Chair

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 of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
            - **Technical considerations remain the 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.**

For more details, see *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and *Antitrust and Competition Policy: What You Need to Know* at http://standards.ieee.org/develop/policies/antitrust.pdf

Patent-related information

The patent policy and the procedures used to execute that policy are documented in the:

- *IEEE-SA Standards Board 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
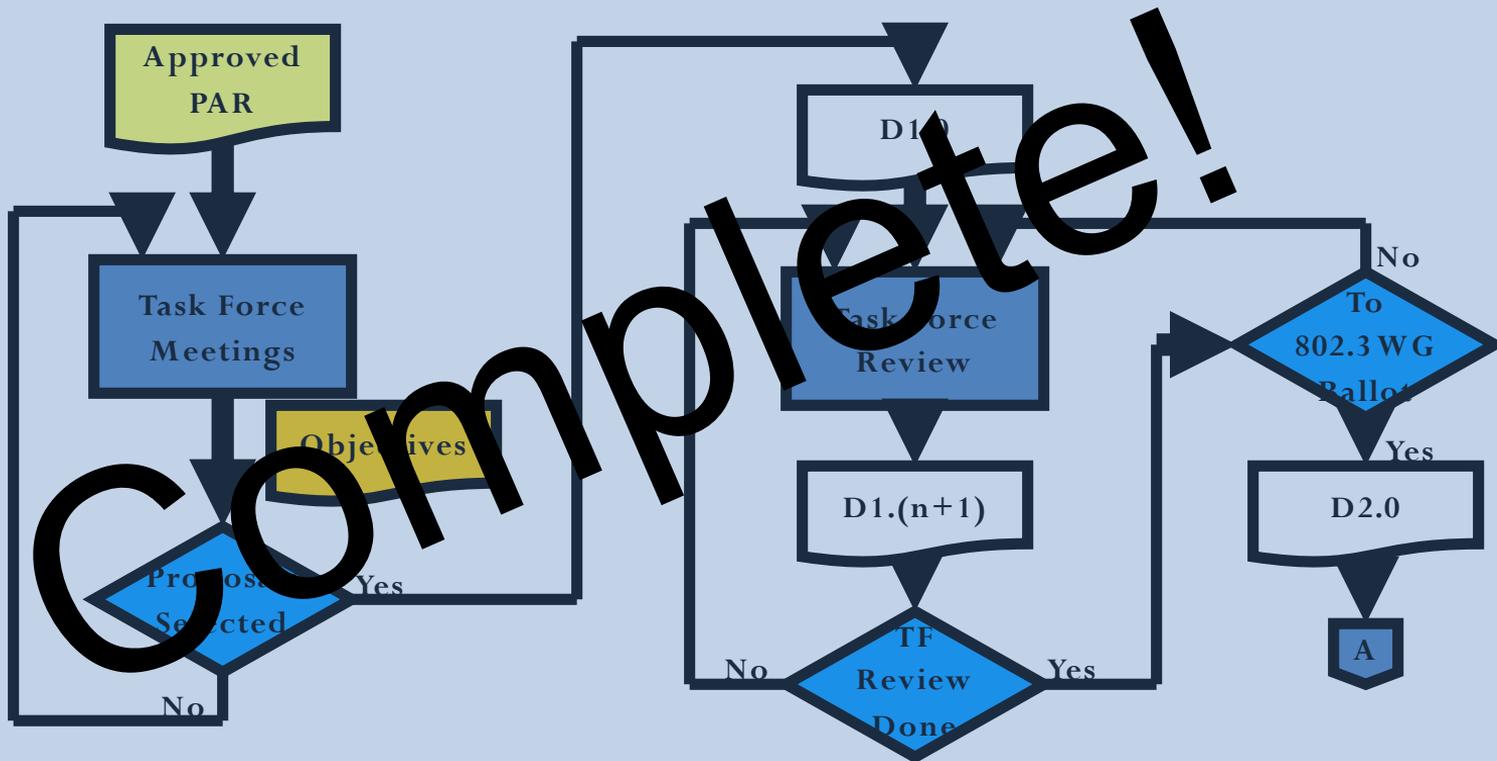*http://standards.ieee.org/about/sasb/patcom/materials.html*

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org
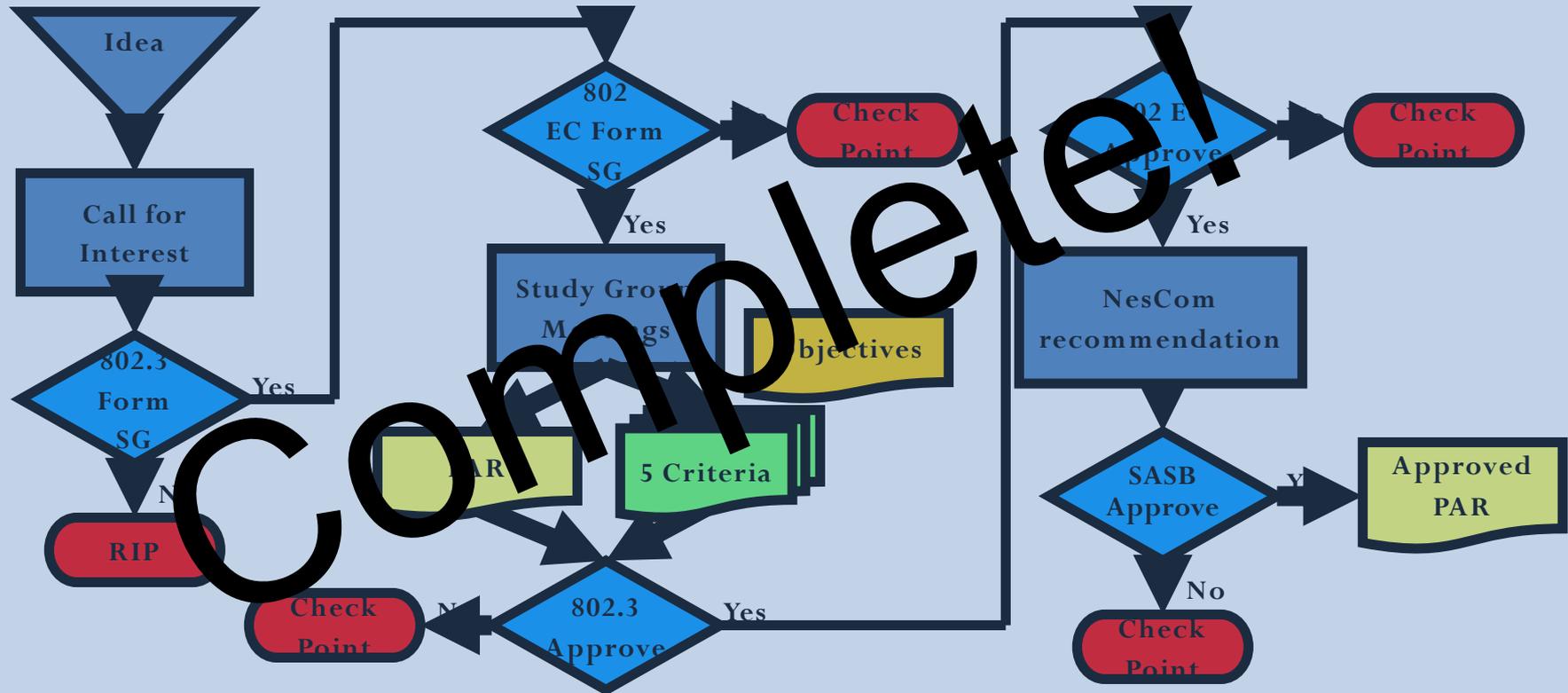
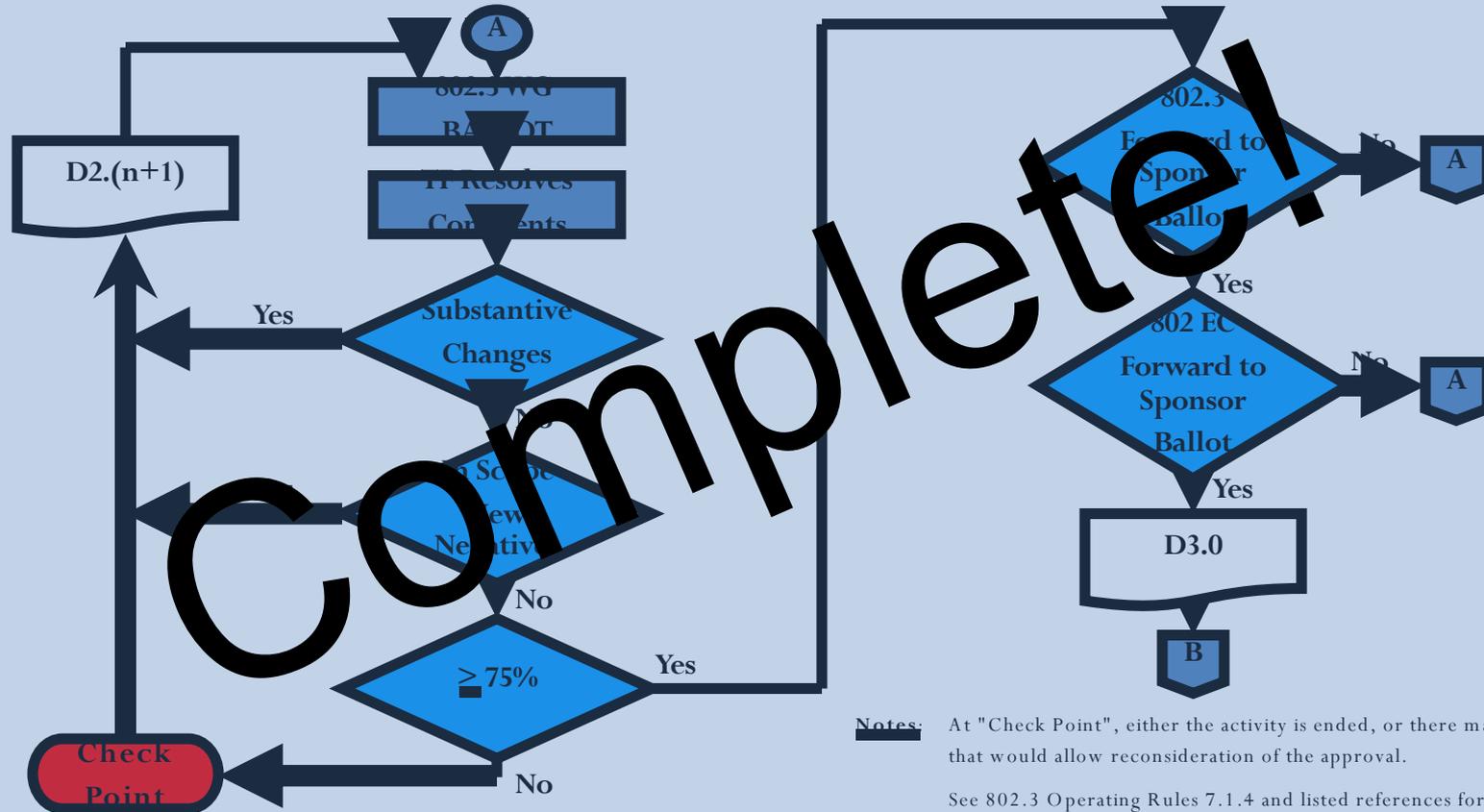Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

IEEE 802.3

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

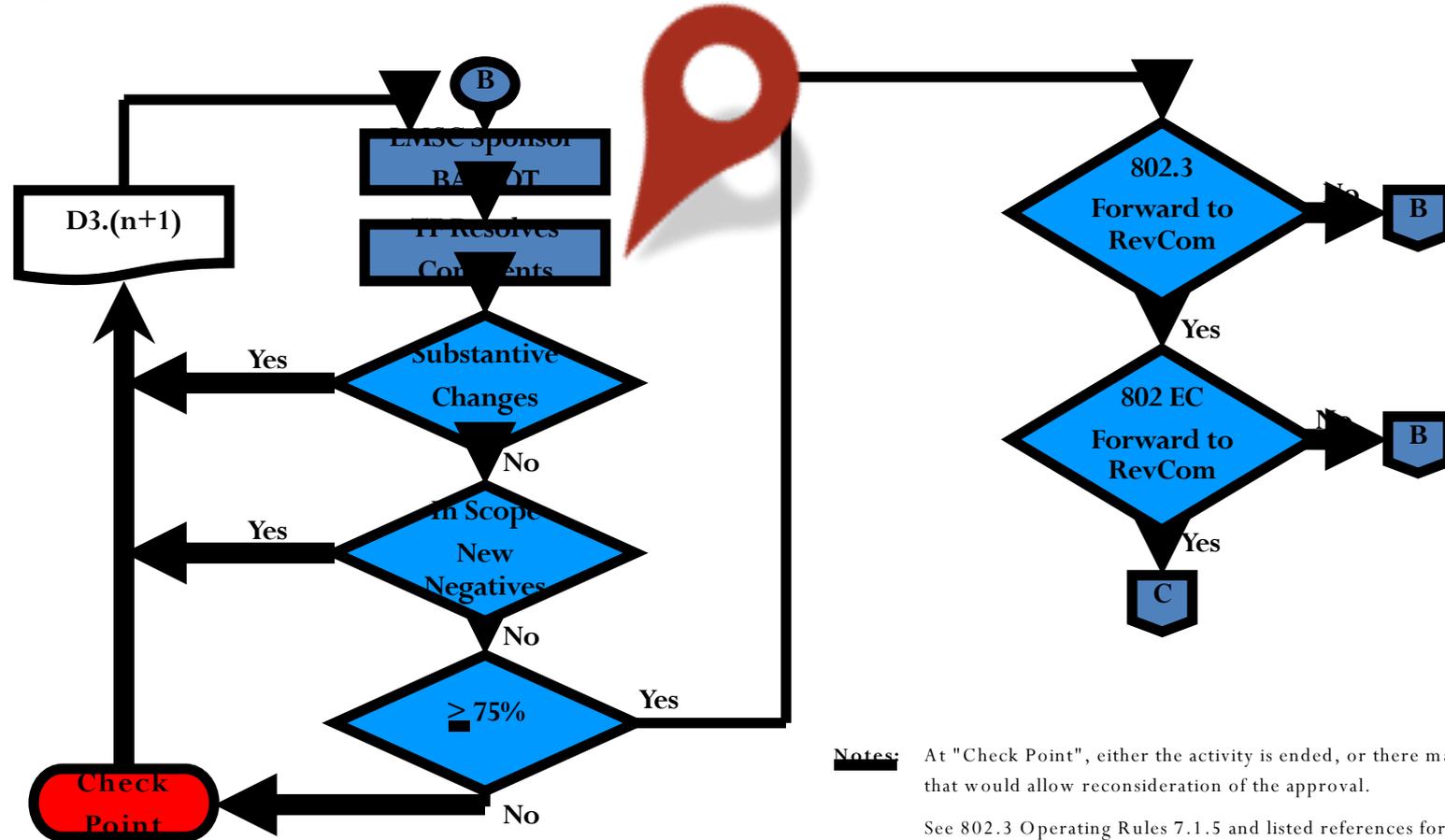See 802.3 Operating Rules 7.1.4 and listed references for complete description

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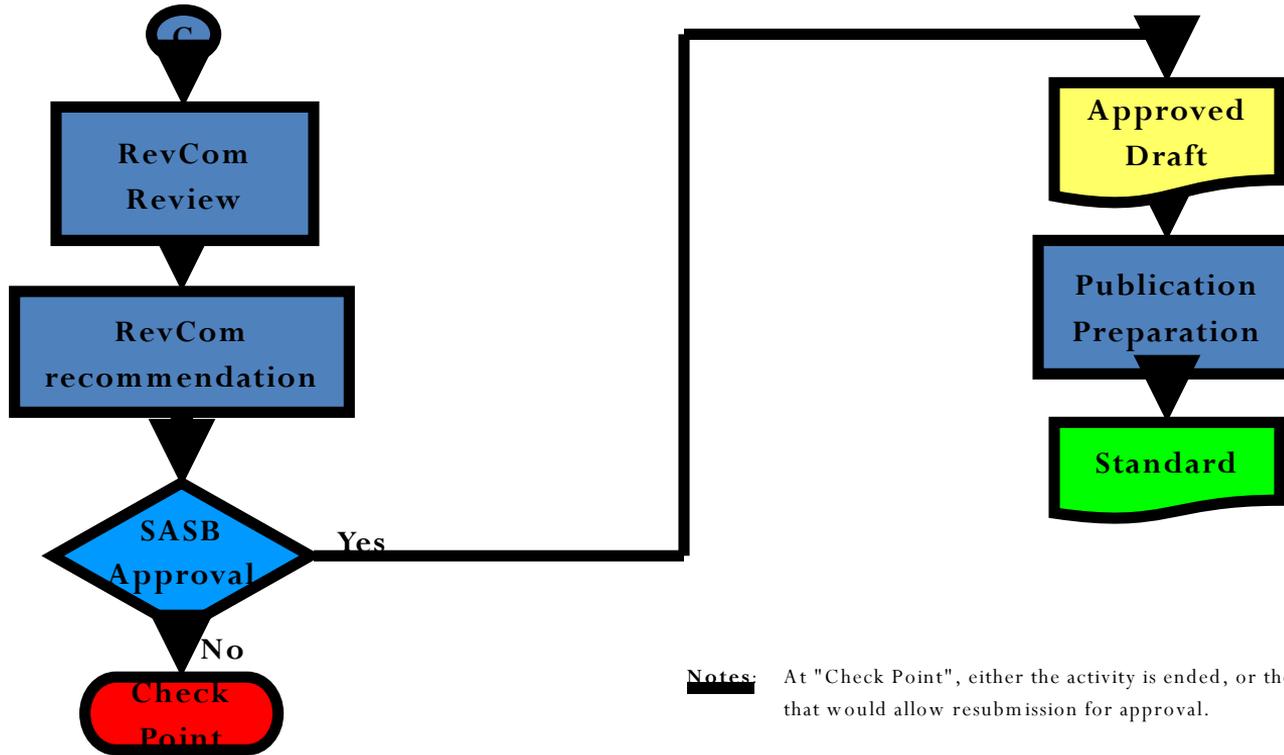
Overview of IEEE 802.3 Standards Process (5/5) – Final Approvals / Standard Release

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

Liaisons and Communications

Ad hocs

Charter: to discuss topics towards supporting the developed objectives, PAR and CSD or for providing the Task Force with contributions to help it prepare for future decisions.

Chair: Kent Lusted, Intel
http://www.ieee802.org/3/cd/public/adhoc/index.html

- Expected to continue the regular cadence.
- Wednesdays @ 8am PT

IEEE P802.3cd Task Force Approved Project Documents

- ## PAR

  - http://www.ieee802.org/3/cd/P802.3cd.pdf

- ## CSD

  - https://mentor.ieee.org/802-ec/dcn/16/ec-16-0060-02-ACSD-802-3cd.pdf

- ## Objectives

  - http://www.ieee802.org/3/cd/P802d3cd_objectives_v4.pdf

- ## Timeline

  - http://www.ieee802.org/3/cd/P802d3cd_timeline.pdf

Objectives 1 of 2

- Support full-duplex operation only

- Preserve the Ethernet frame format utilizing the Ethernet MAC

- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard

- Support optional Energy-Efficient Ethernet operation

- Provide appropriate support for OTN

- Support a MAC data rate of 50 Gb/s and 100 Gb/s

- Support a BER of better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 50 Gb/s and 100 Gb/s operation

- Support a MAC data rate of 200 Gb/s

- Support a BER of better than or equal to 10^{-13} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 200 Gb/s operation

Objectives 2 of 2

50 Gb/s Ethernet PHYs

- Define single-lane 50 Gb/s PHYs for operation over
    - copper twin-axial cables with lengths up to at least 3m.
    - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
    - MMF with lengths up to at least 100m
    - SMF with lengths up to at least 2km
   - SMF with lengths up to at least 10km

100 Gb/s Ethernet PHYs

- Define a two-lane 100 Gb/s PHY for operation over
    - copper twin-axial cables with lengths up to at least 3m.
    - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
    - MMF with lengths up to at least 100m

- Define a single lane 100 Gb/s PHY for operation over duplex SMF with lengths up to at least 500 m, consistent with IEEE P802.3bs Clause 124

200 Gb/s Ethernet PHYs

- Define four-lane 200 Gb/s PHYs for operation over
    - copper twin-axial cables with lengths up to at least 3m.
    - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
- Define 200 Gb/s PHYs for operation over MMF with lengths up to at least 100m

IEEE P802.3cd Task Force Adopted Timeline
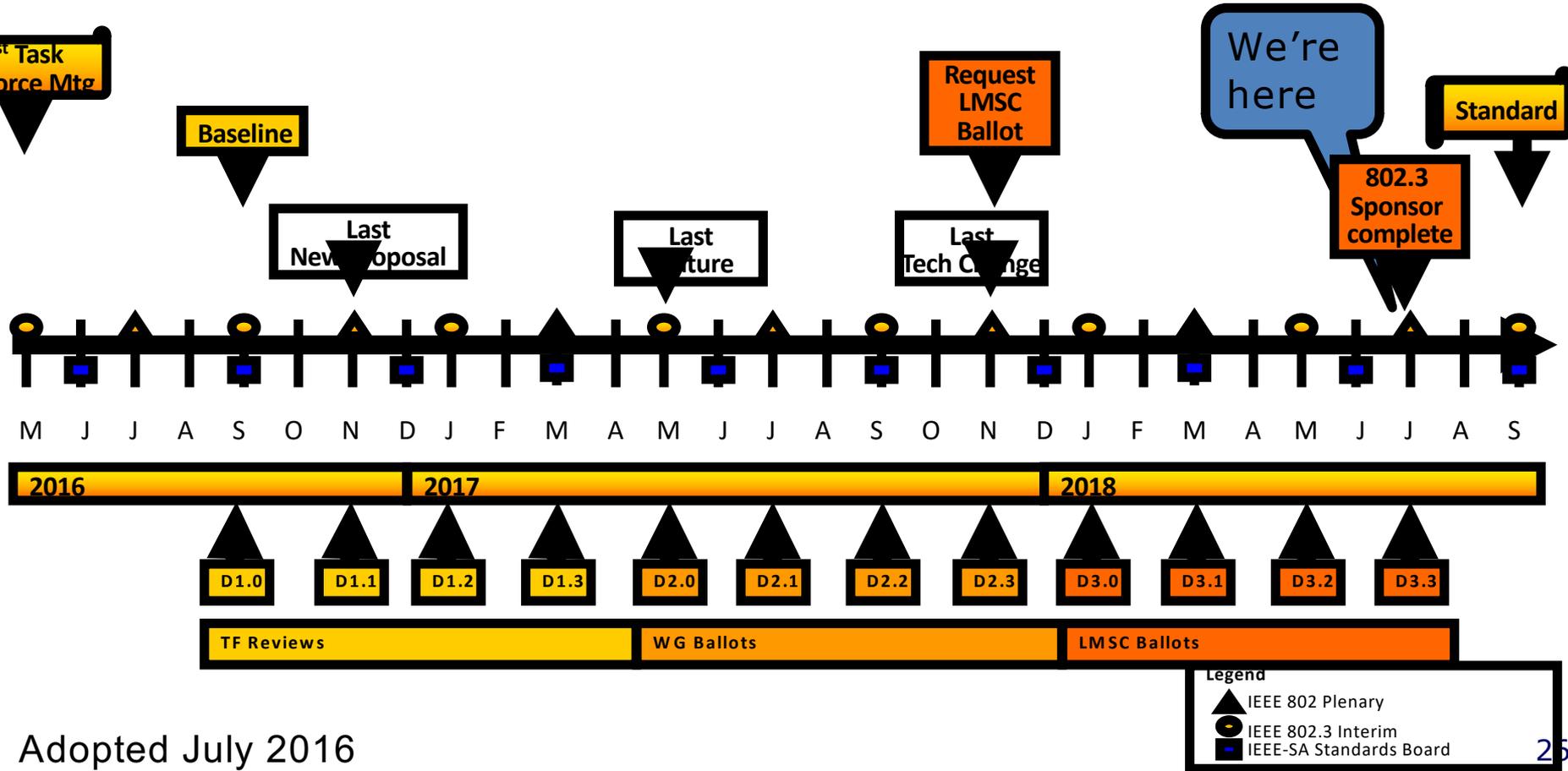
Adopted July 2016
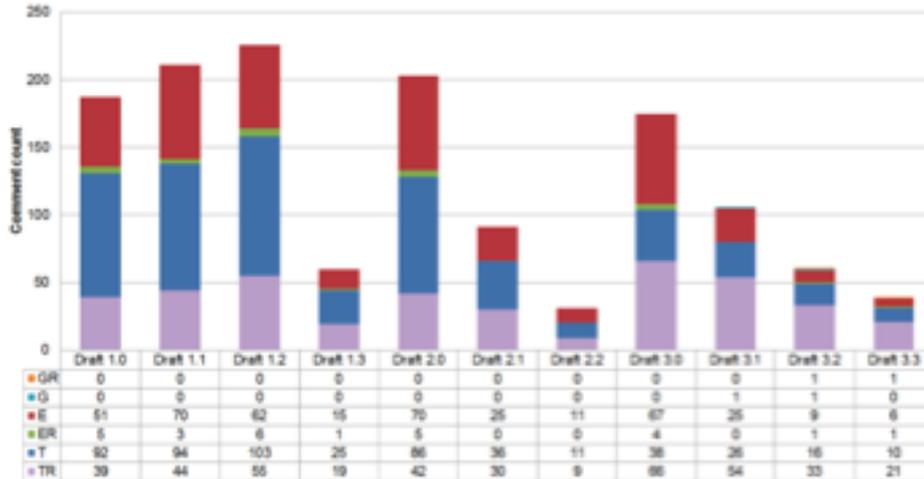
IEEE P802.3cd Task Force Current Timeline

RevCom submittal deadlines: Sept 6th, Oct 15th
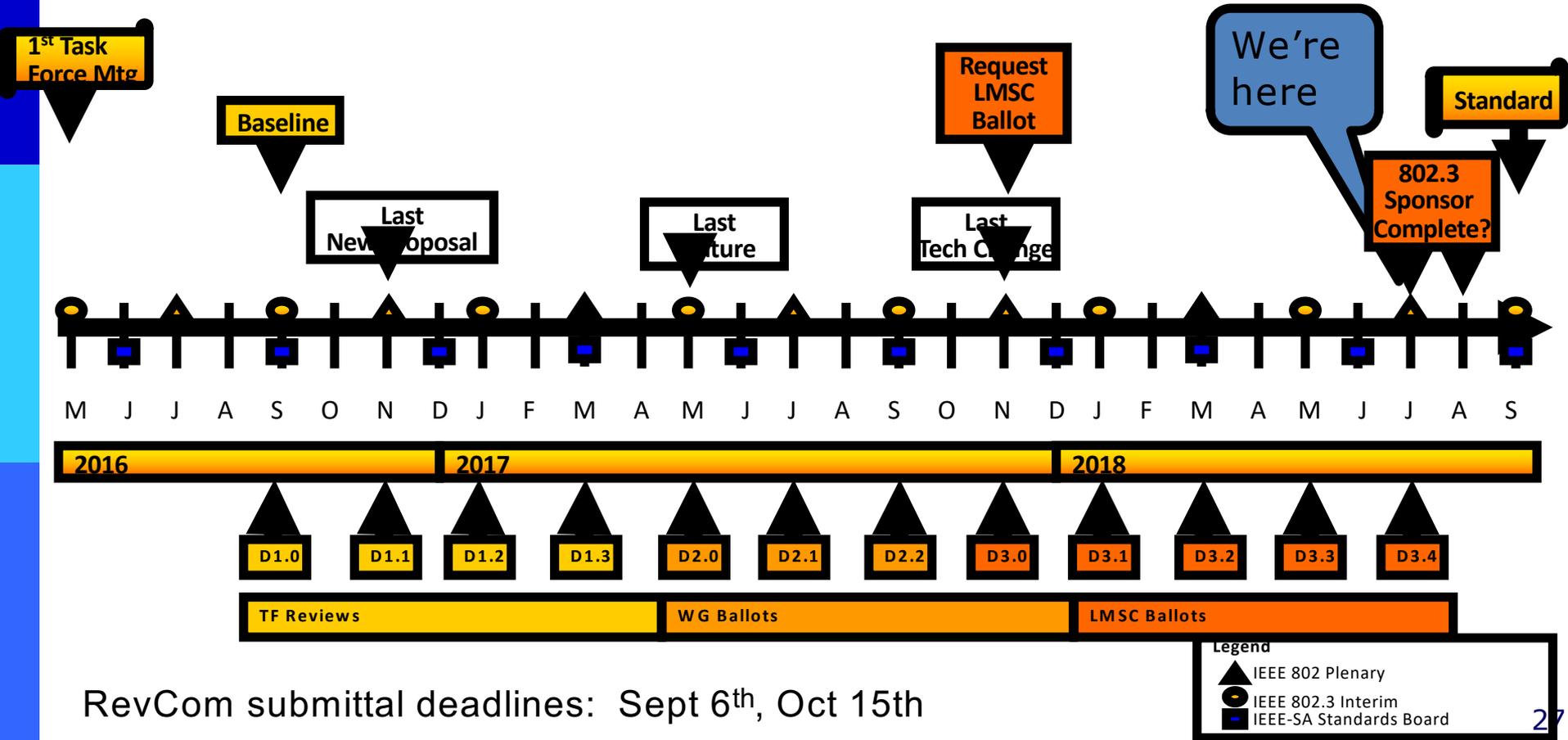
D3.3 Sponsor Ballot Recirc

142 Voters
115 Approve
9 Disapprove
5 Abstain
129 Ballots returned

90% Response Rate (>= 75% required)
3% Abstain Rate (< 30% required)
92% Approval Rate (>= 75% required)

Draft 3.3 generated and sent out for SB Recirculation:

- Review Period: June 5 to June 20, 2018
- 46 comment received (G:0 GR:1 E:6 ER:1 T:10 TR:21) 6 Withdrawn, 1 Late
- Comments & proposed responses: http://www.ieee802.org/3/cd/public/comments

Comment Summary by Draft

Comment Summary by Clause for D3.3

	Draft 1.0	Draft 1.1	Draft 1.2	Draft 1.3	Draft 2.0	Draft 2.1	Draft 2.2	Draft 3.0	Draft 3.1	Draft 3.2	Draft 3.3
GR	0	0	0	0	0	0	0	0	0	1	1
G	0	0	0	0	0	0	0	0	1	1	0
E	51	70	62	15	70	25	11	67	25	9	6
ER	5	3	6	1	5	0	0	4	0	1	1
T	92	94	103	25	86	36	11	38	26	16	10
TR	39	44	55	19	42	30	9	66	54	33	21

E/ER = editorial, T/TR = technical, G/GR = general
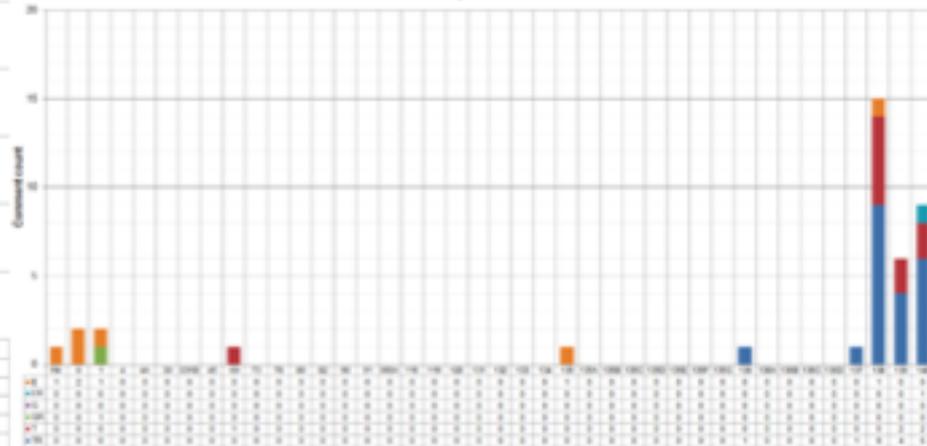
IEEE-SA Sponsor Ballot Process

5.4.3.5 Completion of the standards balloting process and submittal to RevCom

- A minimum of 75% of those voting Approve or Do Not Approve (Negative with comment) must approve the draft in order to submit the ballot result to the IEEE-SA Standards Board. In the event that 30% or more of the returned ballots are Abstentions, the standards balloting process shall be considered invalid.

- In the event that a 75% return cannot be obtained, the standards balloting process is considered to have failed and further disposition of the proposed standard shall be the responsibility of the Sponsor.

- Once all required recirculations have been completed and 75% approval has been achieved, the IEEE requirements for consensus have been met. Efforts to resolve Do Not Approve votes may continue for a brief period; however, if such resolution is not possible in a timely manner, the Sponsor should forward the submittal to RevCom because the IEEE has an obligation to the majority to review and publish the proposed standard quickly.

- Copies of all unresolved Do Not Approve votes, together with the reasons given by the Do Not Approve voters and the responses by the Sponsor, shall be included with the ballot results submitted to RevCom.

- The Sponsor shall, if not included in a recirculation package, provide to the Do Not Approve voter and to RevCom an explanation why any comments associated with a Do Not Approve vote were not required to be recirculated. In order for a Do Not Approve vote to be changed to an Approve or Abstain vote, the Sponsor shall obtain and provide to RevCom written confirmation from each voter (by letter, fax, or electronic mail) that indicates concurrence with any change of his or her vote. Any Do Not Approve vote with comment that RevCom is ask

http://standards.ieee.org/develop/policies/opman/sb_om.pdf

RevCom – Acceptable Responses for Rejection

Disposition status is "Rejected" when one or more of these applies:

- The CRG disagrees with the comment
- The comment is out of scope
- The proposed change in the comment does not contain sufficient detail so that the CRG can understand the specific changes that satisfy the commenter
- The CRG cannot come to a consensus to make changes necessary to address the comment
- The comment is in support of an unsatisfied previous comment associated with a disapprove vote and does not provide substantive additional rationale
- The comment includes an attachment that does not meet the criteria indicated by the myBallot system; that the CRG cannot address as a single issue; or that does not relate to a specific line, paragraph, figure, or equation in the balloted draft
- The commenter has indicated to the CRG chair that they wish to withdraw the comment

http://standards.ieee.org/about/sasb/revcom/guidelines.pdf

RevCom – Disposition for Rejection

The disposition detail field should explain why the comment is being rejected using one or more of these reasons:

- An explanation of why the CRG disagrees with the comment,

- A statement that the comment is out of scope, and the rationale,

- A statement that the proposed change in the comment does not contain sufficient detail so that the CRG can understand the specific changes that satisfy the commenter

- A statement that the CRG could not reach consensus on the changes necessary to address the comment, along with the reason

- A statement that the CRG has previously considered the comment (or a substantively similar comment), along with identification (by reference or copy) of the original comment and its disposition detail and status

- A statement of why the CRG considers the attachment does not meet the criteria indicated by the myBallot system; or cannot be addressed as a single issue; or does not relate to a specific line, paragraph, figure, or equation in the balloted draft

- A statement that the commenter has withdrawn the comment

http://standards.ieee.org/about/sasb/revcom/guidelines.pdf

IEEE 802.3

Path to completion

Scenario 1	Scenario 2	Scenario 3
Exit July with broad consensus on all technical resolutions	Exit July with technical resolutions – some verification needed	

• Request conditional approval to submit to RevCom on Thurs
• Generate D3.4 & recirc.
• Contingent Interim Aug 8th
• Either:
   • No changes. Done
   • Minor changes →
   Generate D3.5 & recirc. No changes @ Sept interim. Done
	• Request conditional approval to Revcom on Thurs
	• Generate D3.4 & recirc
	• Contingent Interim Aug 8th
	• Changes made. Generate D3.5 & recirc
		• Generate D3.4 & recirculate
		• Longer time to assess
		• Resolve final fixes @ Sept interim
		• Generate D3.5 & recirc
		• Contingent Interim Oct
		• No changes. Done

Submit D3.4 or 3.5 to RevCom Sept 6th	• Submit D3.5 to RevCom Sept 6
	• Sept interim → if changes needed:
	   • withdraw from Revcom, resolve, Generate D3.6 & recirc
	   • Another Contingent Interim → No changes. Done
	   • Submit Oct 15th Revcom
		Submit to RevCom Oct 15th

RevCom Submittal	SASB Approval
Sept 6, 2018	Oct 15, 2018
Oct 15, 2018	Dec 3-5, 2018

Path to completion

- Scenario 1: Very nice if we can achieve this
- Scenario 2: Essentially same as Scenario 1 in outcome. Extra cycles to try to achieve Sept 6th deadline – less time between cycles.
- Scenario 3: More time for work/verification in labs. Aim for Oct 15th deadline

Goals for the meeting

- Comment Resolution on D3.3 comments
- Review technical presentations
- Generate D3.4 for Sponsor Ballot recirculation

Meeting Logistics

- Main Meeting room is Harbor A/B - 2nd Level
- Monday
    - 8am start
    - Break for 802.3 WG Opening Plenary
    - 1pm resumption
- Tuesday
    - 8am -12pm
    - Note – if we finish early, 802.3ck starts right away.

Meeting Schedule – Mon/Tues

Monday 9-Jul-18

Time	Presenter	Affiliation	Title	File Name	Dur.
8:00 AM	Mark Nowell	Cisco	Agenda and General Information	agenda_3cd_01_0718.pdf	0:30
8:30 AM	Kent Lusted	Intel	802.3cd Task Force Ad-hoc report	lusted_3cd_01_0718.pdf	0:10
8:40 AM	Matt Brown	Macom	802.3cd Chief Editor's Report	brown_3cd_01_0718.pdf	0:10
8:50 AM	Matt Brown	Macom	Comment agenda	brown_3cd_02_0718.pdf	0:10
9:00 AM	Comment Resolution (presentations as needed)				1:00
10:00 AM	**Break for 802.3 WG Opening Plenary**				3:00
1:00 PM	Comment Resolution (presentations as needed)				2:30
3:30 PM	**Break**				0:20
3:50 PM	Comment Resolution (presentations as needed)				2:10
6:00 PM	**Break**				

Tuesday 10-Jul-18

Time	Presenter	Affiliation	Title		File Name	Dur.
8:00 AM	Comment Resolution (presentations as needed)					2:30
10:30 AM	**Break**					0:20
10:50 AM	Comment Resolution (presentations as needed)					1:10
12:00 PM	**Adjourn**					1:00

IEEE 802.3

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Contributed Presentations

Contributed Presentations			
Transition time measurement using the SSPRQ pattern (comment r03-44)	5-July-2018	Greg LeCheminant	Keysight
SRS test source calibration	5-July-2018	Jonathan King	Finisar
TDECQ map and interpretation	5-July-2018	Jonathan King	Finisar
Completing the family of TDECQ-related specifications	5-July-2018	Piers Dawe	Mellanox
Restoring the optical power levels for the 50GBASE-SR family	5-July-2018	Piers Dawe	Mellanox
Concerning Comments r03-21, -22, -36, -39, -42, -43 On TDECQ	5-July-2018	Kohichi Tamura Mark Heimbuch Ed Ulrichs Frank Chang Hai-Feng Liu David Lewis	Oclaro Source Photonics Source Photonics Source Photonics Intel Lumentum
Achieving closure on TDECQ/SRS	5-July-2018	Marco Mazzini Gary Nicholl Matt Traverso	Cisco Cisco Cisco
Inter-operability risk for 50BASE-CR with Draft 3.3 ERL specifications (updated)	5-July-2018	Mike Dudek Tao Hu	Cavium Cavium
TDECQ EQ Constraints	5-July-2018	Phil Sun	Credo

Future Meetings & Ad hocs

- Ad-hoc meeting plans
  - On-going quasi-weekly meetings, all topics (will cycle) – agendas will be published.
  - Starting @ Wed 8am Pacific
- See: http://www.ieee802.org/meeting/index.html
- Aug 8th 2018 Contingent Interim **** new ****
  - Webex. 8am-10am PT. Details to be sent out on reflector
- Sept 2018 Interim
  - Week of Sept 10th, 2018   Location: Spokane, WA, USA
- November 2018 Plenary
  - Week of Nov 11, 2018. Bangkok, Thailand

- Anyone interested in hosting an interim meeting contact me or the IEEE 802.3 Executive Secretary Steve Carlson.

Thank You!