Agenda and General Information

IEEE 802.3cd

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

Mark Nowell, Cisco

Charlotte, NC

Sept 12th-13th , 2017

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
- Motions and Closing Business
- Future Meetings

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

- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (December 2013 IEEE-SA Standards Board Ops Manual 5.3.3.5)
- Photography or recording by permission only (December 2013 IEEE-SA Standards Board Ops Manual 5.3.3.4)
- 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: ***

Ground Rules

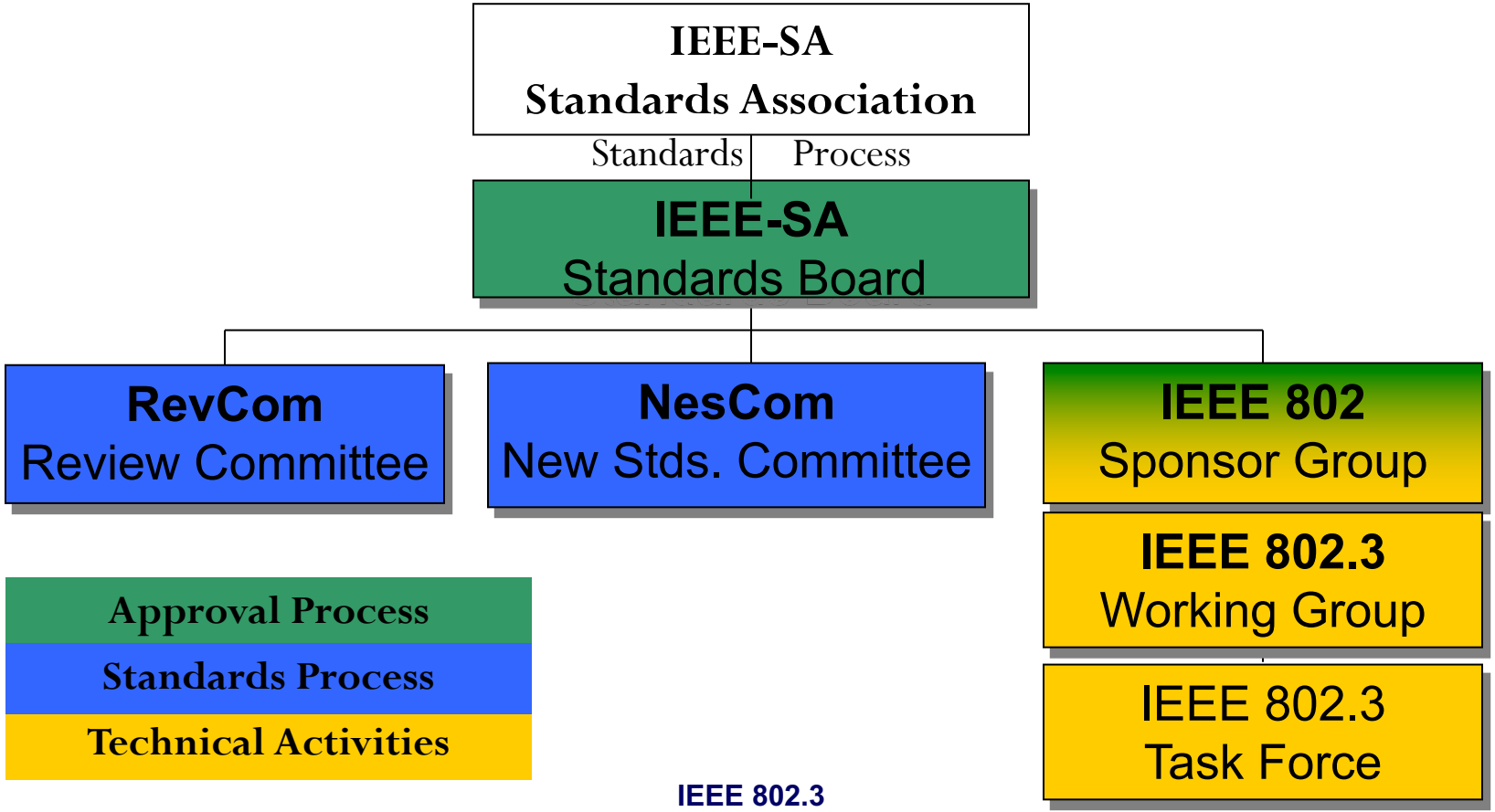
- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**… give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- 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



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

Updated

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)

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**
  - **"Should inform the IEEE (or cause the IEEE to be informed)" of the identity of "any other holders of 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

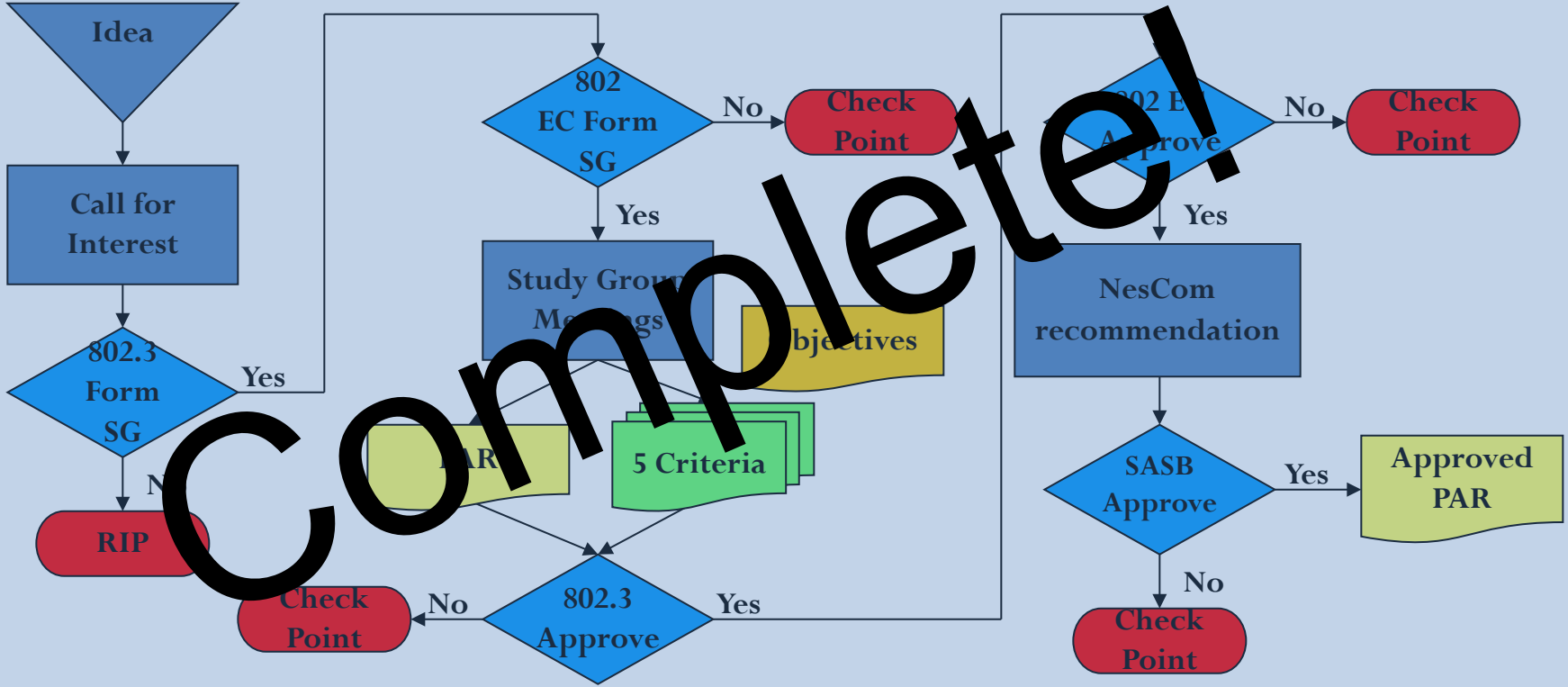
- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
  - Either speak up now or
  - Provide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

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.**

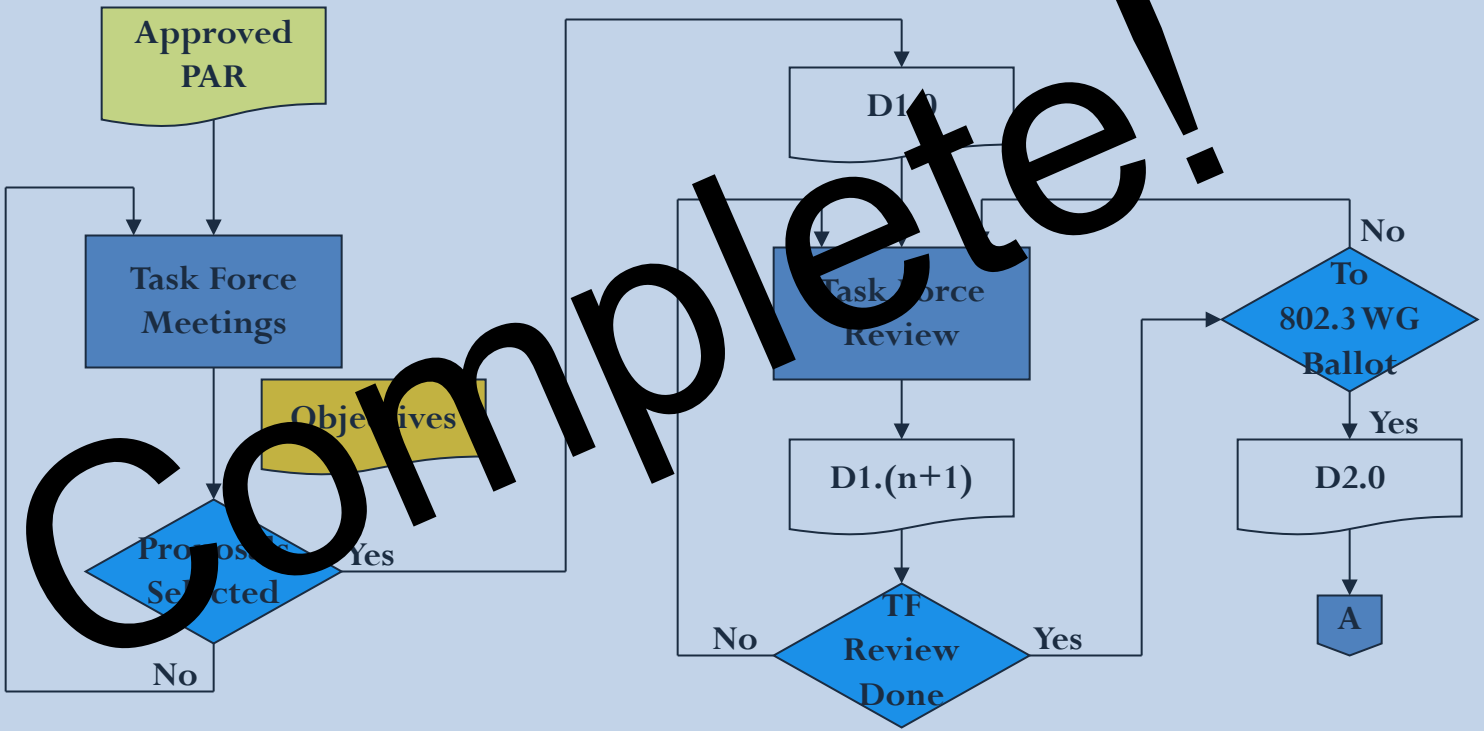
See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

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



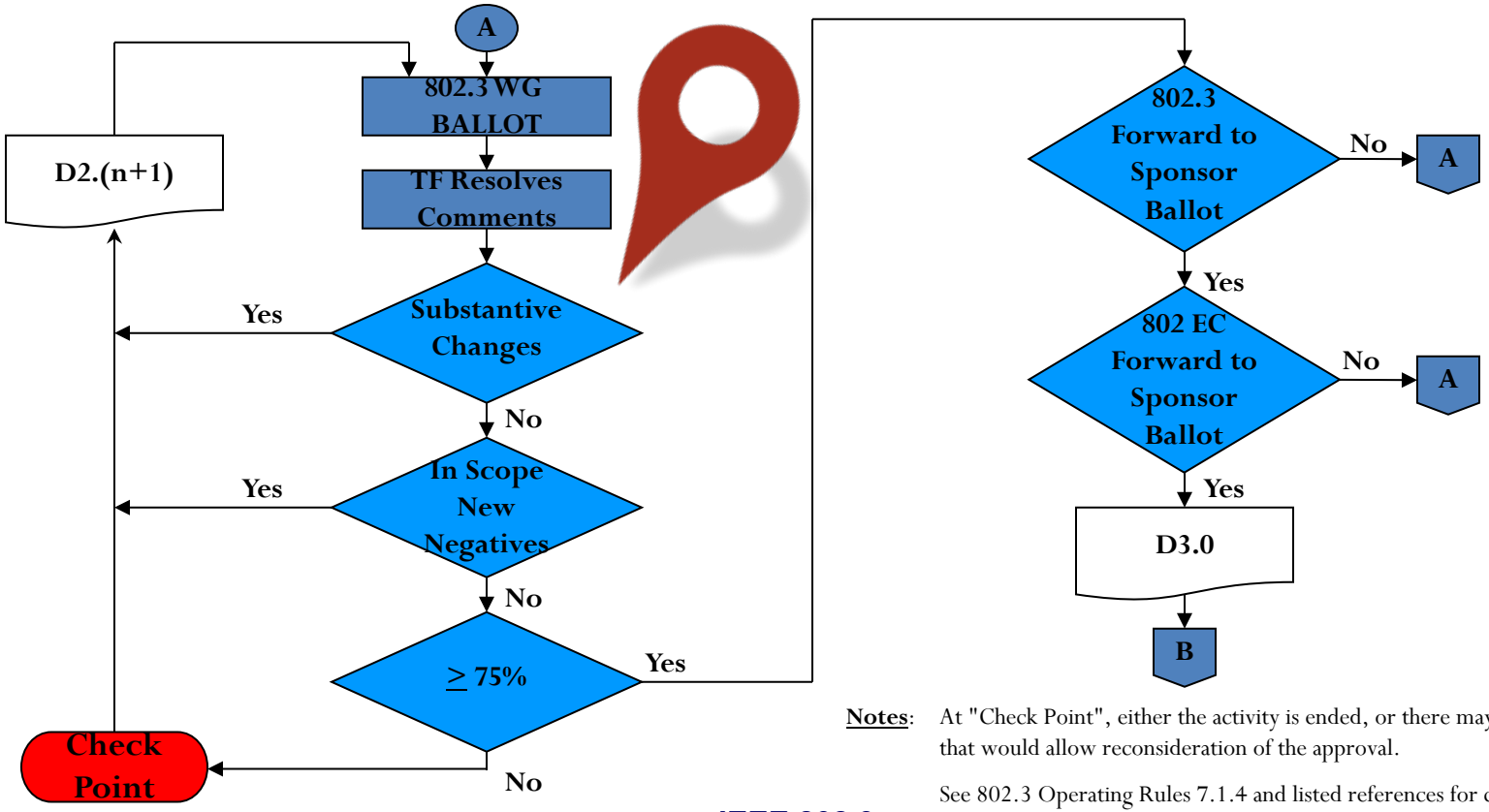
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



Complete!

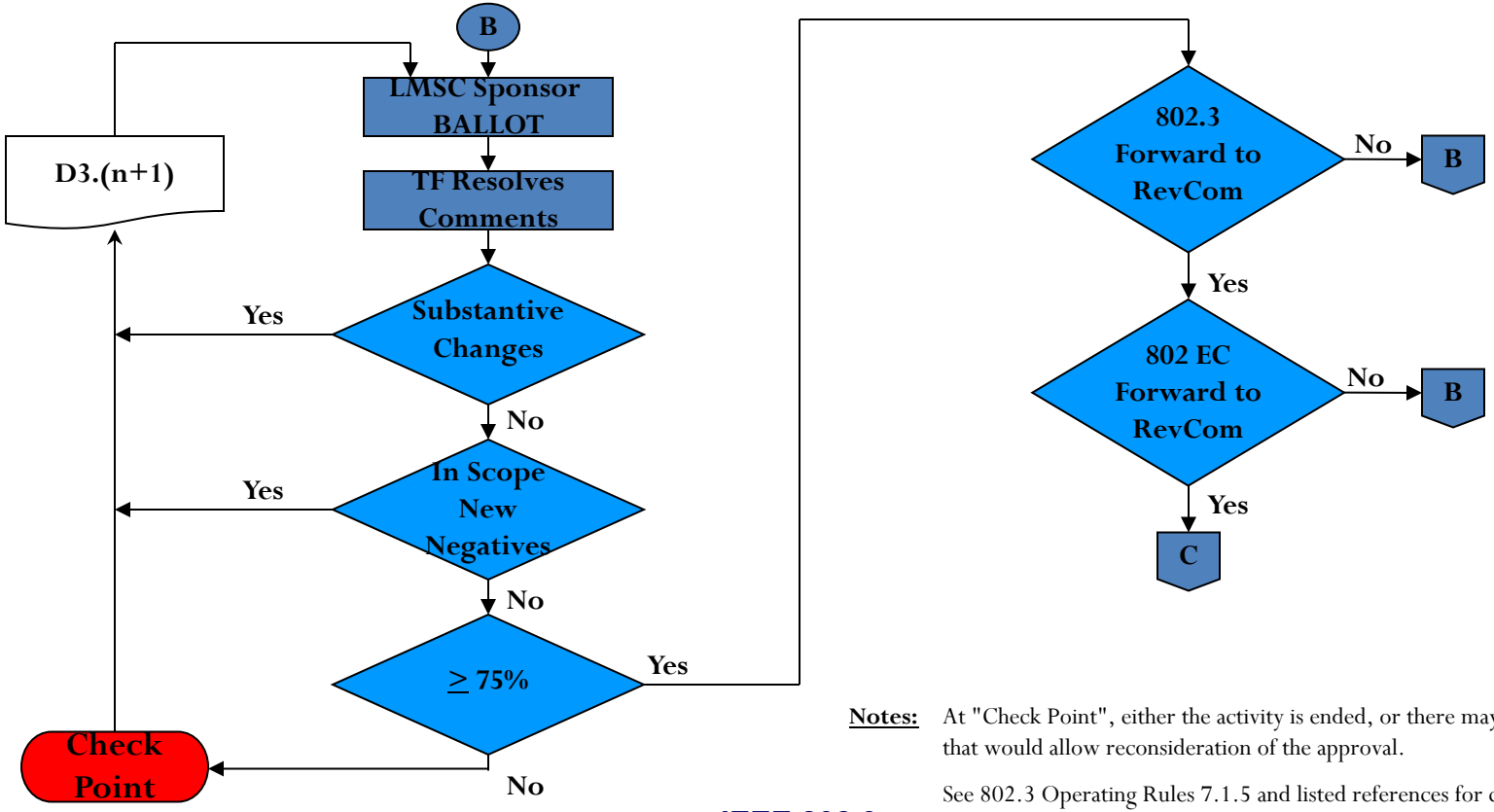
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

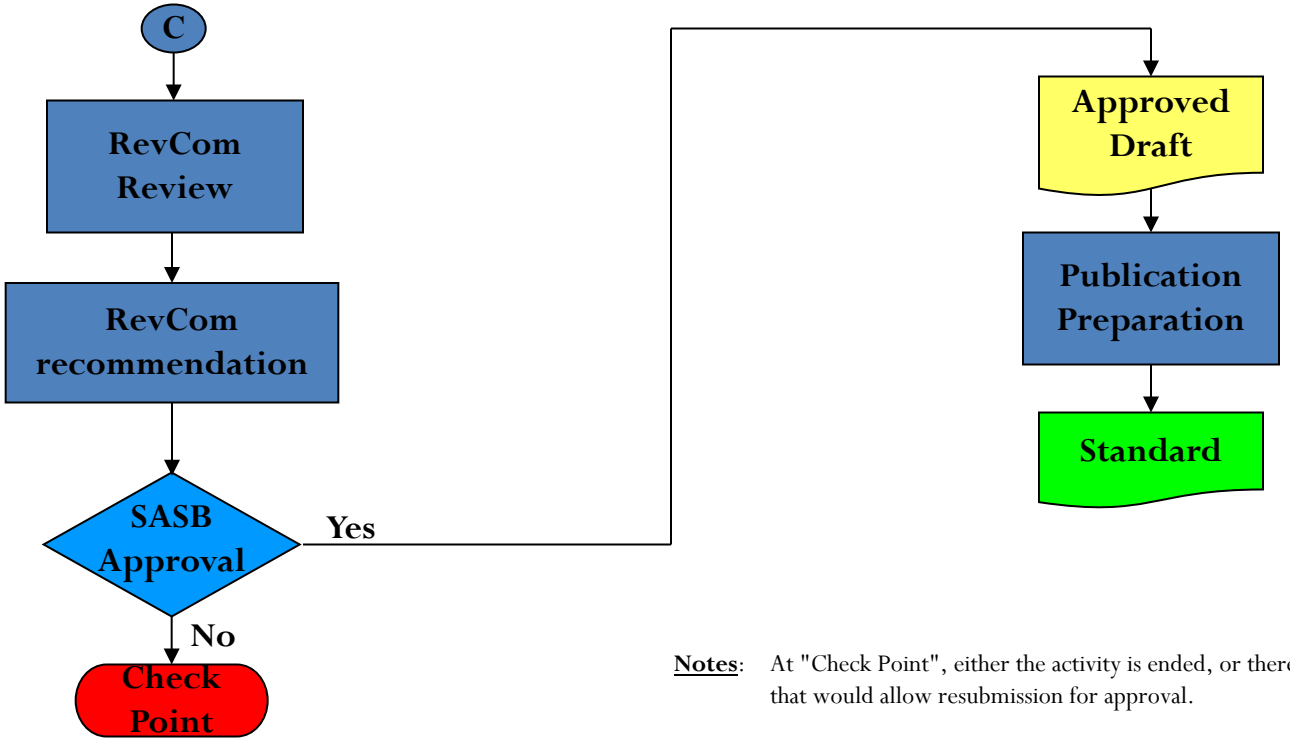
Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



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.

Liaisons and Communications

OIF to IEEE P802.3bs and P802.3cd regarding progress on OIF CEI-56G projects

- http://www.ieee802.org/3/minutes/sep17/incoming/OIF_to_IEEE_P802d3bs_cd_MR_LR_Aug_2017.pdf

- Shared:
  - OIF CEI-56G-MR-PAM: OIF2014.245.12
  - OIF CEI-56G-LR-PAM: OIF2014.380.08

Plan to develop a response and share D2.2

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

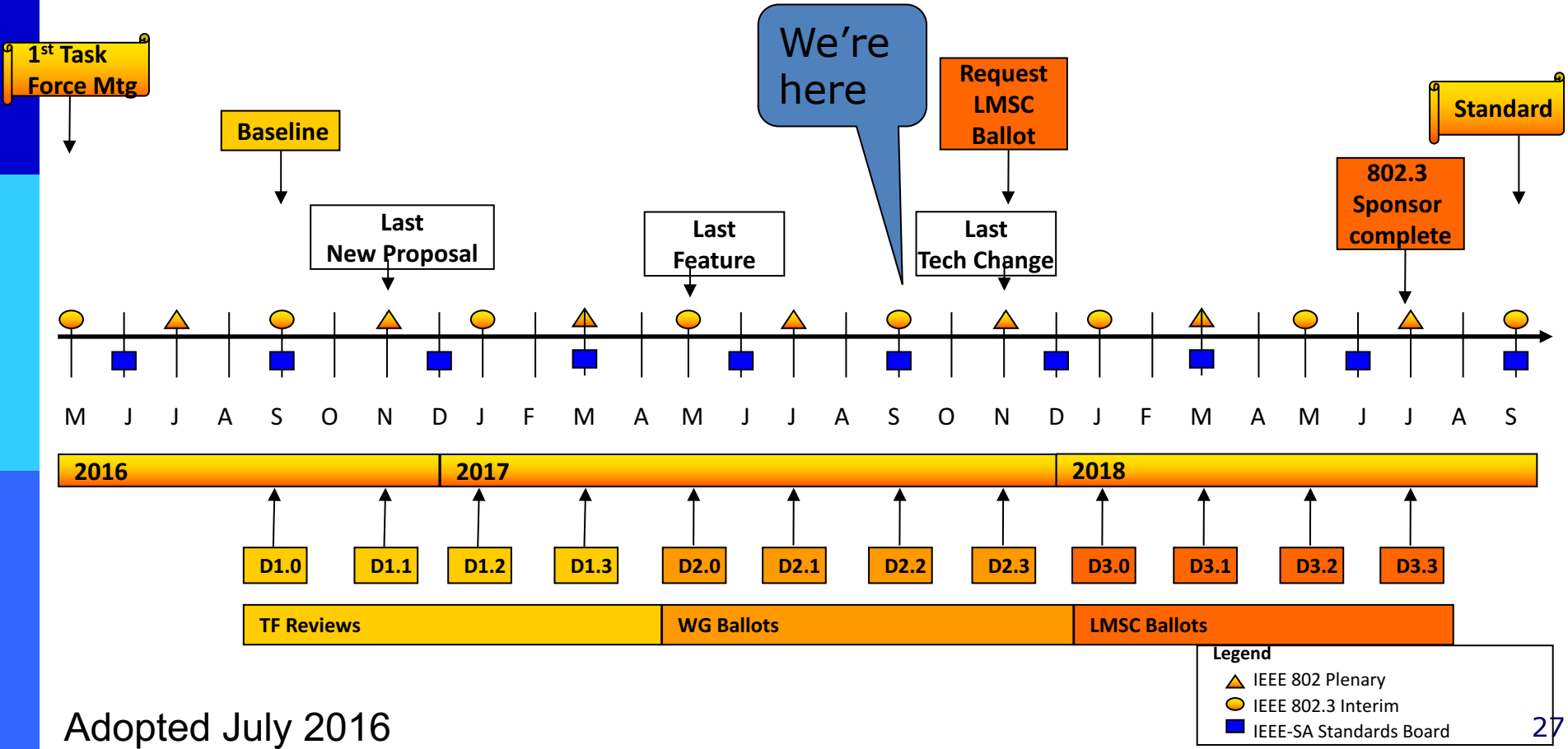
- Define four-lane 200 Gb/s PHYs for operation over
  - copper twin-axial cables with lengths up to at least 3m.
  - printed circuit board backplane with a total channel insertion loss of <= 30dB at 13.28125 GHz.
- Define 200 Gb/s PHYs for operation over MMF with lengths up to at least 100m

Baselines:

For historical reference, the set of adopted baselines are summarized:

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

IEEE P802.3cd Task Force Adopted Timeline

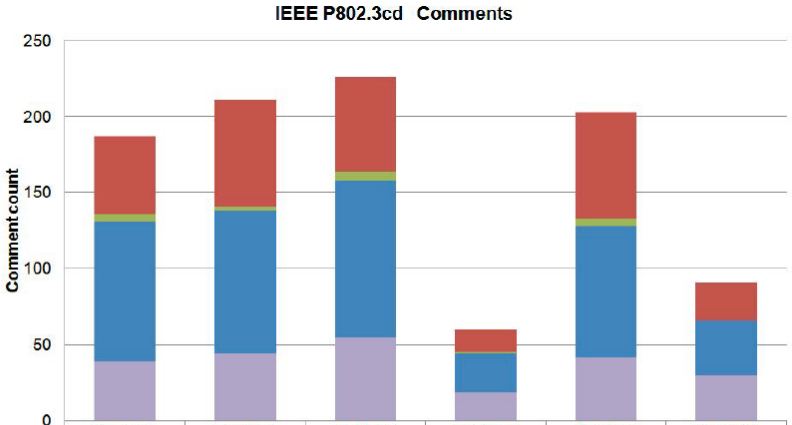


Adopted July 2016

D2.1 Working Group Ballot recirculation

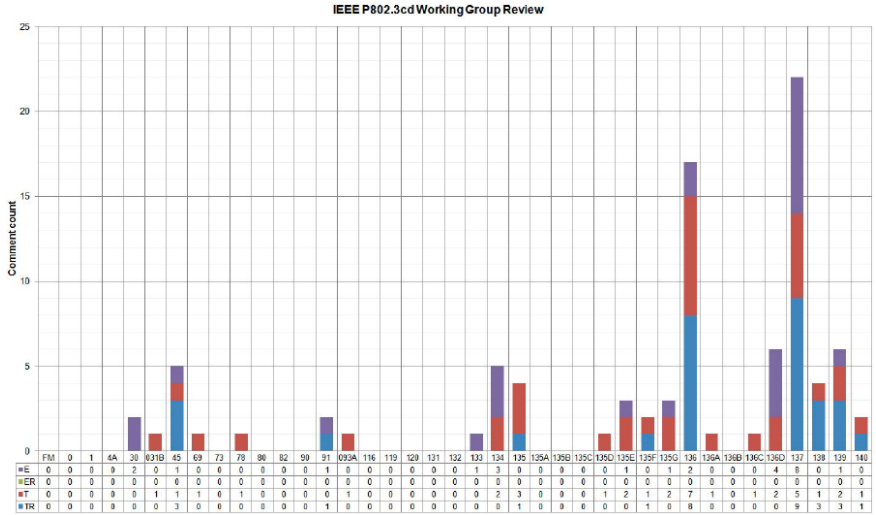
Draft 2.1 generated and sent out for Task Force recirculation Review:

- Review Period Aug 10th – Aug 24th
- 91comments received (E:25 ER:0 T:36 TR:30) Includes 3 received late
- Comments and proposed responses: http://www.ieee802.org/3/cd/comments/index.html



	Draft 1.0	Draft 1.1	Draft 1.2	Draft 1.3	Draft 2.0	Draft 2.1
E	51	70	62	15	70	25
ER	5	3	6	1	5	0
T	92	94	103	25	86	36
TR	39	44	55	19	42	30

E/ER = editorial, T/TR = technical



Goals for the meeting

- Comment Resolution on D2.1 comments
- Review technical presentations
- Generate D2.2 for WG Ballot recirculation

Meeting Logistics

- Meeting room is Mecklenburg
- All day Tuesday and Wednesday
- No Tracks

Meeting Schedule – Tues/Wed/Thurs

Tuesday 12-Sep-17	Time	Presenter	Affiliation	Title	File Name	Dur.
	8:30 AM	Mark Nowell	Cisco	Agenda and General Information	agenda_3cd_01_0917.pdf	0:40
	9:10 AM	Kent Lusted	Intel	802.3cd Task Force Ad-hoc report	lusted_3cd_01_0917.pdf	0:10
	9:20 AM	Matt Brown	Macom	802.3cd Chief Editor's Report	brown_3cd_01_0917.pdf	0:10
	9:30 AM	Comment Resolution (presentations as needed)				1:00
	10:30 AM	**Break**				0:15
	10:45 AM	Comment Resolution (presentations as needed)				1:15
	12:00 PM	**Lunch**				1:00
	1:00 PM	Comment Resolution (presentations as needed)				2:00
	3:00 PM	**Break**				0:15
	3:15 PM	Comment Resolution (presentations as needed)				2:15
	5:30 PM	**Break**				

Wednesday 13-Sep-17	Time	Presenter	Affiliation	Title	File Name	Dur.
	8:30 AM	Comment Resolution (presentations as needed)				2:00
	10:30 AM	**Break**				0:20
	10:50 AM	Comment Resolution (presentations as needed)				1:10
	12:00 PM	**Lunch**				1:00
	1:00 PM	Comment Resolution (presentations as needed)				2:00
	3:00 PM	**Break**				0:20
	3:20 PM	Comment Resolution (presentations as needed)				2:40
	6:00 PM	**Adjorn**				

Note –Times listed are subject to change.
Updated versions will be captured with new filename versions

Future Meetings & Ad hocs

- Ad-hoc meeting plans
  - On-going quasi-weekly meetings, all topics (will cycle) – agendas will be published. 2hr duration.
  - Wed 8-10 Pacific
- See: http://www.ieee802.org/meeting/index.html
- Nov 2017 Plenary
  - Week of Nov 5, 2017 – Orlando, FL
- Jan 2018 Interim
  - Week of Jan 22nd, Geneva, CH
- March 2018 Plenary
  - Week of March 5th, Rosemont, IL (O'Hare Airport)

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

Thank You!