

Next-Gen 200G & 400G PHYs for MMF Study Group Agenda and General Information

Robert Lingle, Jr,
Acting Chair, IEEE 802.3 NGMMF Study Group

OFS

IEEE 802 March 2018 Plenary

Rosemont, Illinois

Agenda

- Welcome / Introductions
- Approval of Agenda
- IEEE 802 Participation
- Pre-PAR Patent Policy
- Approve Study Group Ad Hoc, January Interim Minutes
- Study Group Information
- Attendance
- Ground Rules
- The Role of the Chair
- IEEE
 - Structure
 - Bylaws and Rules
 - IEEE 802.3 Standards Process
 - Study Group Chartering Motion
- Goals for the Week
- Presentations
- Discussion, Straw Polls, Motions
- Closing Business
- Future Meetings

Task Force Decorum



- Photography or recording by permission only (2016 SASB Op Manual 5.3.3.2)
- Cell phone ringers off
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (5.3.3.3)
- 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

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/preparslides.ppt>

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>)

Study Group Meeting Minutes

- Jan Interim:
 - [http://www.ieee802.org/3/NGMMF/public/Jan18/unapproved meeting notes ngmmf 01 jan18.pdf](http://www.ieee802.org/3/NGMMF/public/Jan18/unapproved%20meeting%20notes%20ngmmf%2001%20jan18.pdf)
- Feb 08 Study Group Ad Hoc Meeting – **Approved** (Feb 22, 2018):
 - [http://www.ieee802.org/3/NGMMF/public/adhoc/approved minutes NGMMF adhoc 01 Feb-08-2018.pdf](http://www.ieee802.org/3/NGMMF/public/adhoc/approved%20minutes%20NGMMF%20adhoc%2001%20Feb-08-2018.pdf)
- Feb 22 Study Group Ad Hoc Meeting:
 - [http://www.ieee802.org/3/NGMMF/public/adhoc/unapproved minutes NGMMF adhoc 01 Feb-22-2018.pdf](http://www.ieee802.org/3/NGMMF/public/adhoc/unapproved%20minutes%20NGMMF%20adhoc%2001%20Feb-22-2018.pdf)

IEEE 802.3 Next-Gen PHYs for MMF SG Information

- Robert Lingle Jr, Chair
- Mabud Choudhury, Recording Secretary
- Home Page -
<http://www.ieee802.org/3/NGMMF/index.html>
- Reflector Information –
<http://www.ieee802.org/3/NGMMF/reflector.html>

Attendance

- Tutorial Material on attendance tool
 - http://iee802.org/3/minutes/attendance_procedures.pdf
- Access details
 - URL: <http://imat.ieee.org/>
- Attendance books
 - Keeps track of attendance in room
 - Used to support requests to verify attendance by chair if IMAT not used.

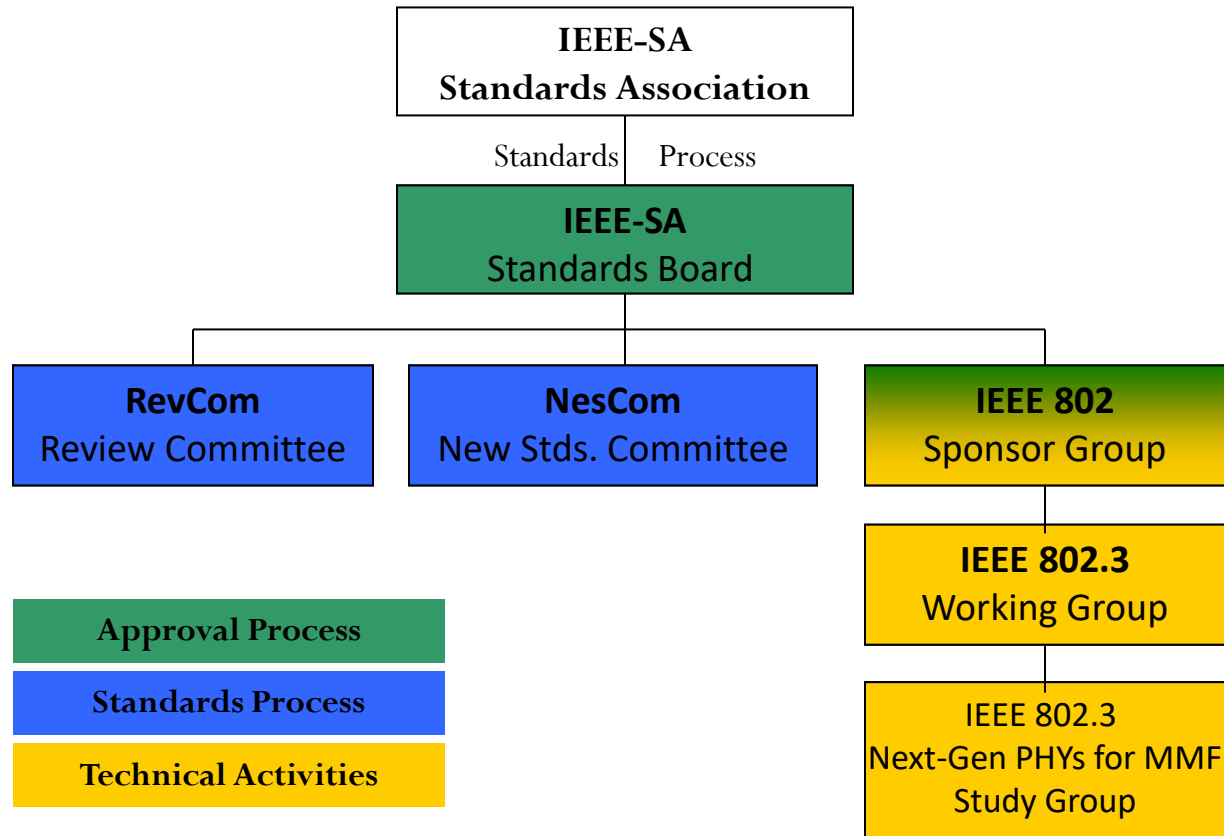
Ground Rules

- **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**

The Role of the Chair

- Per the IEEE 802.3 Ethernet WG Operations Manual (http://www.ieee802.org/3/rules/P802_3_rules.pdf)
 - The operation of the TF has to be balanced between democratic procedures that reflect the desires of the TF members and the TF Chair's responsibility to produce a draft standard, recommended practice, or guideline in a reasonable amount of time for review and approval by the WG. Robert's Rules of Order shall be used in combination with these operating rules to achieve this balance.
 - The full responsibilities of the chair are specified in 3.4.3 Task Force Chair's Responsibilities.
- Reminder - individual standards activities within the WG are, at the discretion of the WG, carried out by Task Forces (TF) operating under, and reporting to, the WG.

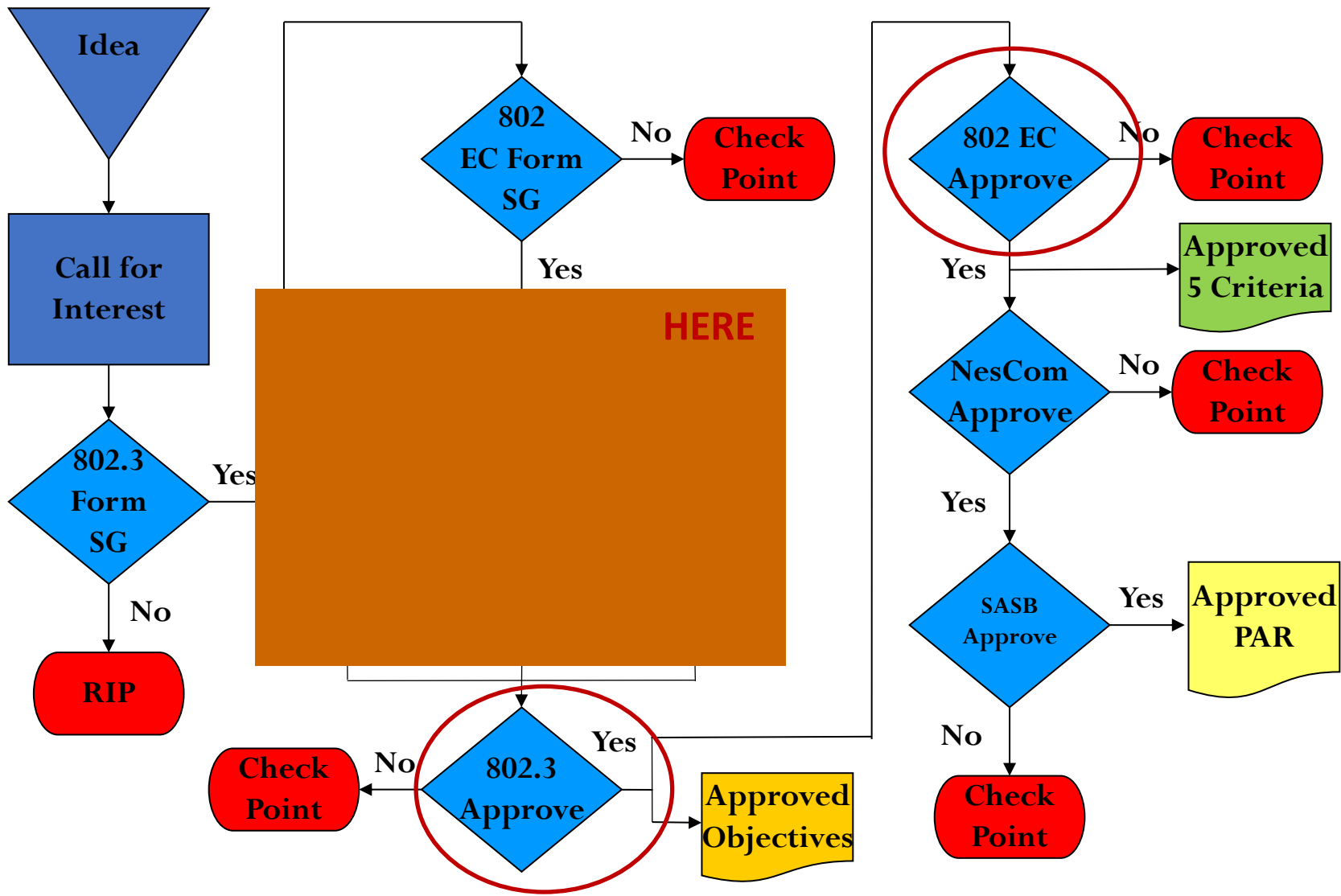
IEEE Structure



Important Bylaws, Rules, & References

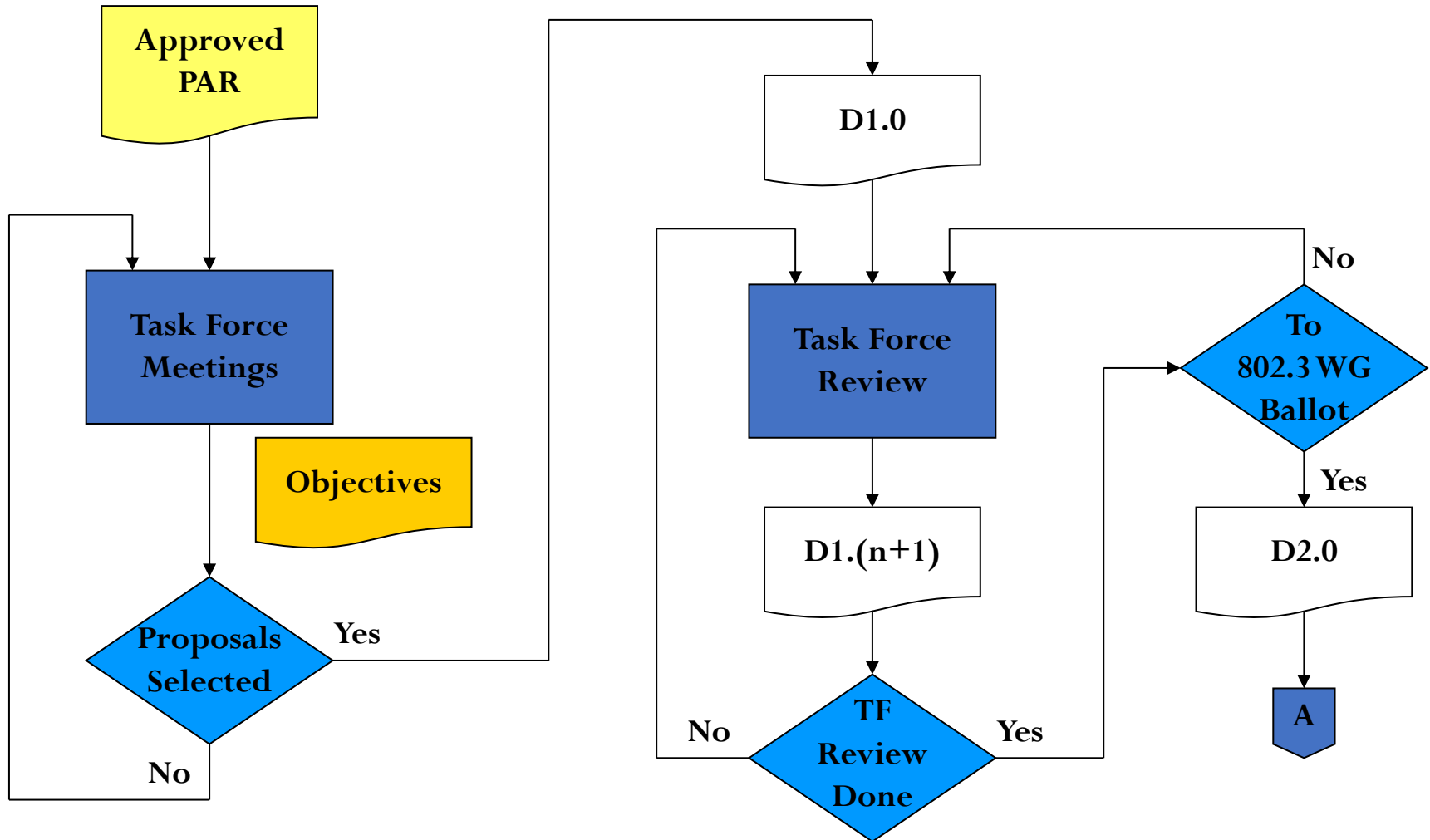
- **IEEE-SA Operations Manual**
<http://standards.ieee.org/sa/sa-om.pdf>
- **IEEE-SA Standards Board Bylaws**
<http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf>
- **IEEE-SA Standards Board Operations Manual**
<http://standards.ieee.org/guides/opman/sb-om.pdf>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Policies and Procedures**
<http://standards.ieee.org/about/sasb/audcom/pnp/LMSC.pdf>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual**
http://ieee802.org/PNP/approved/IEEE_802_OM_v19.pdf
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures**
<http://standards.ieee.org/about/sasb/audcom/pnp/LMSC.pdf>
- **IEEE 802.3 Working Group Operating Rules**
http://ieee802.org/3/rules/P802_3_rules.pdf
- **“Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy”**
<http://standards.ieee.org/develop/policies/antitrust.pdf>

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

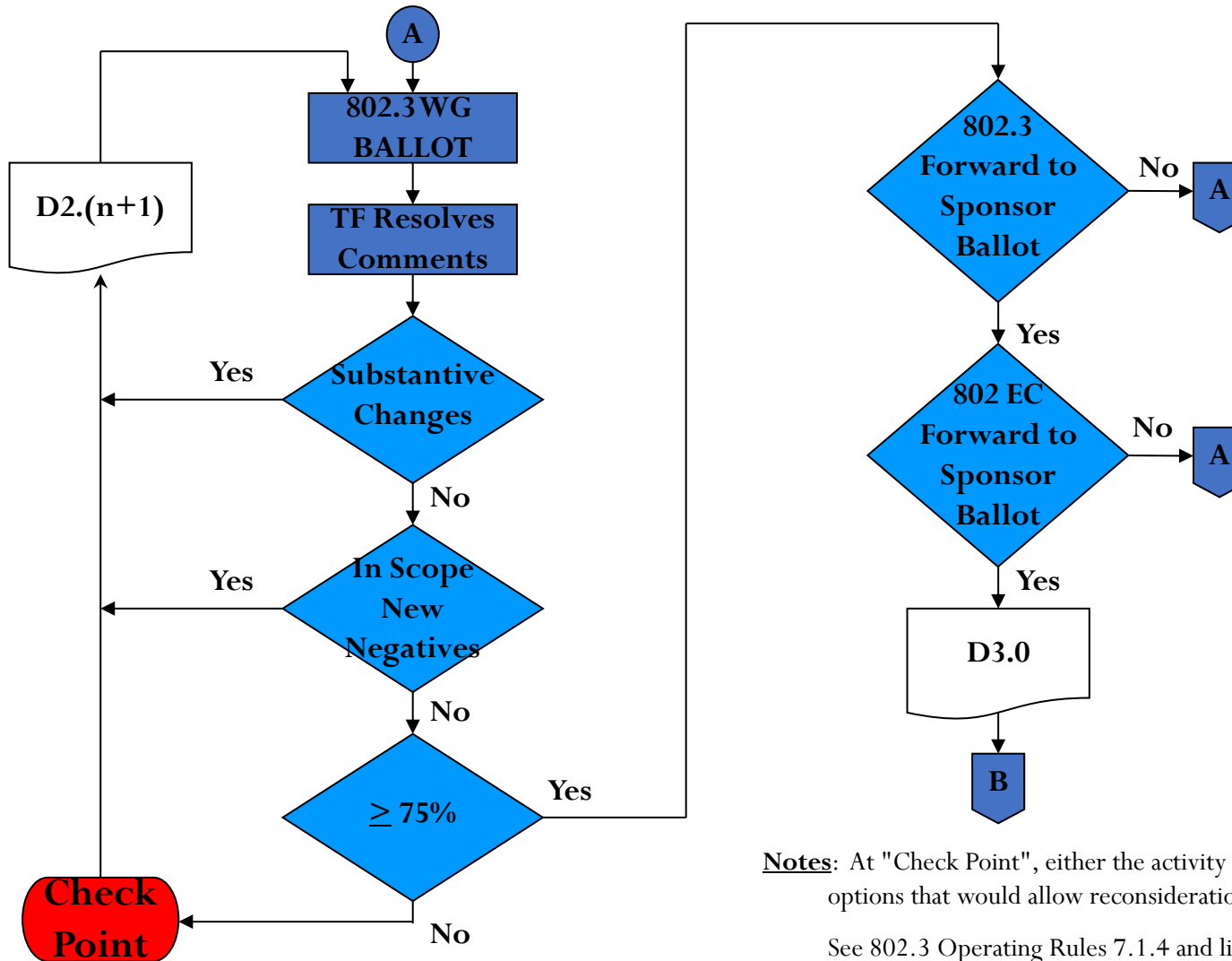


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



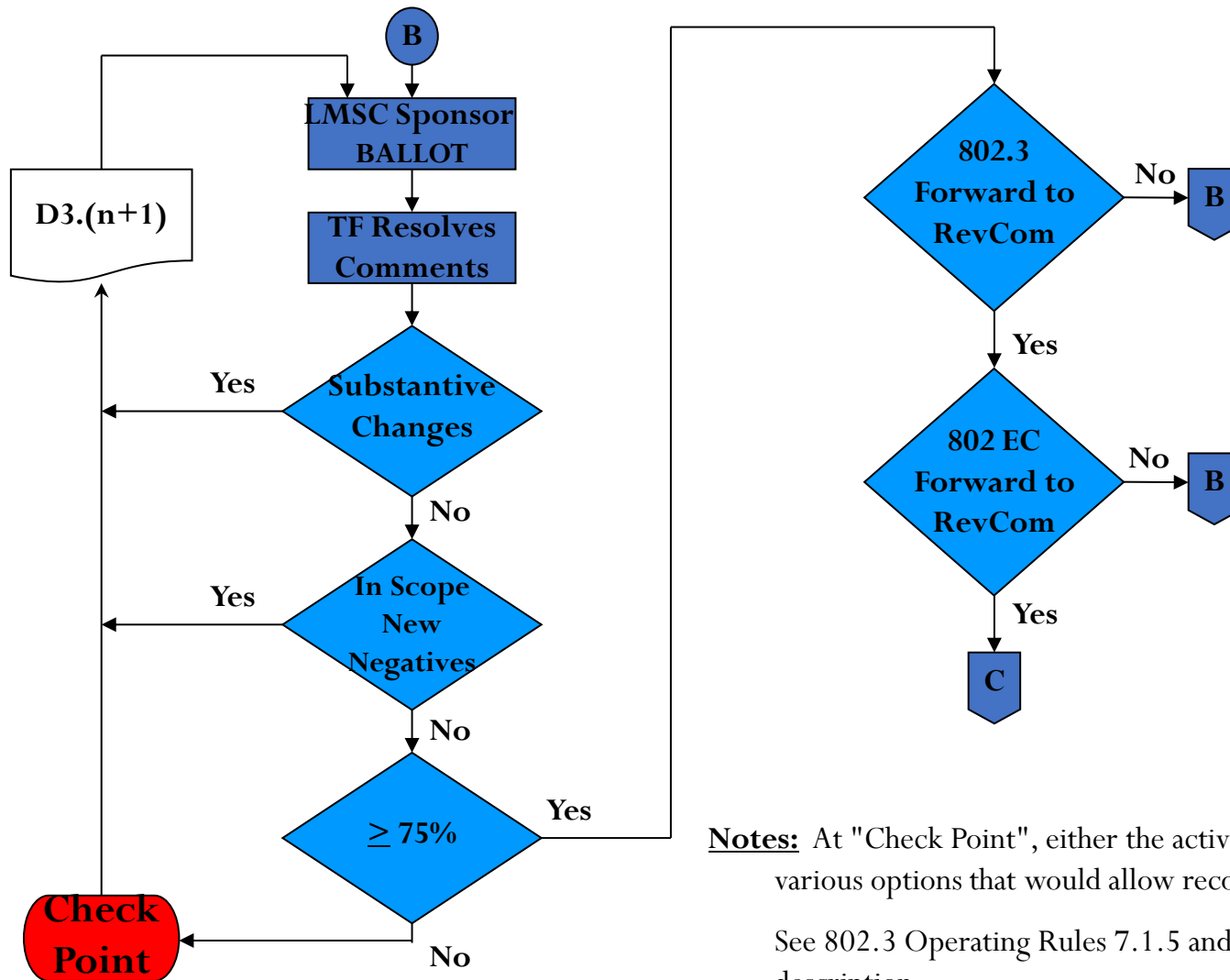
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

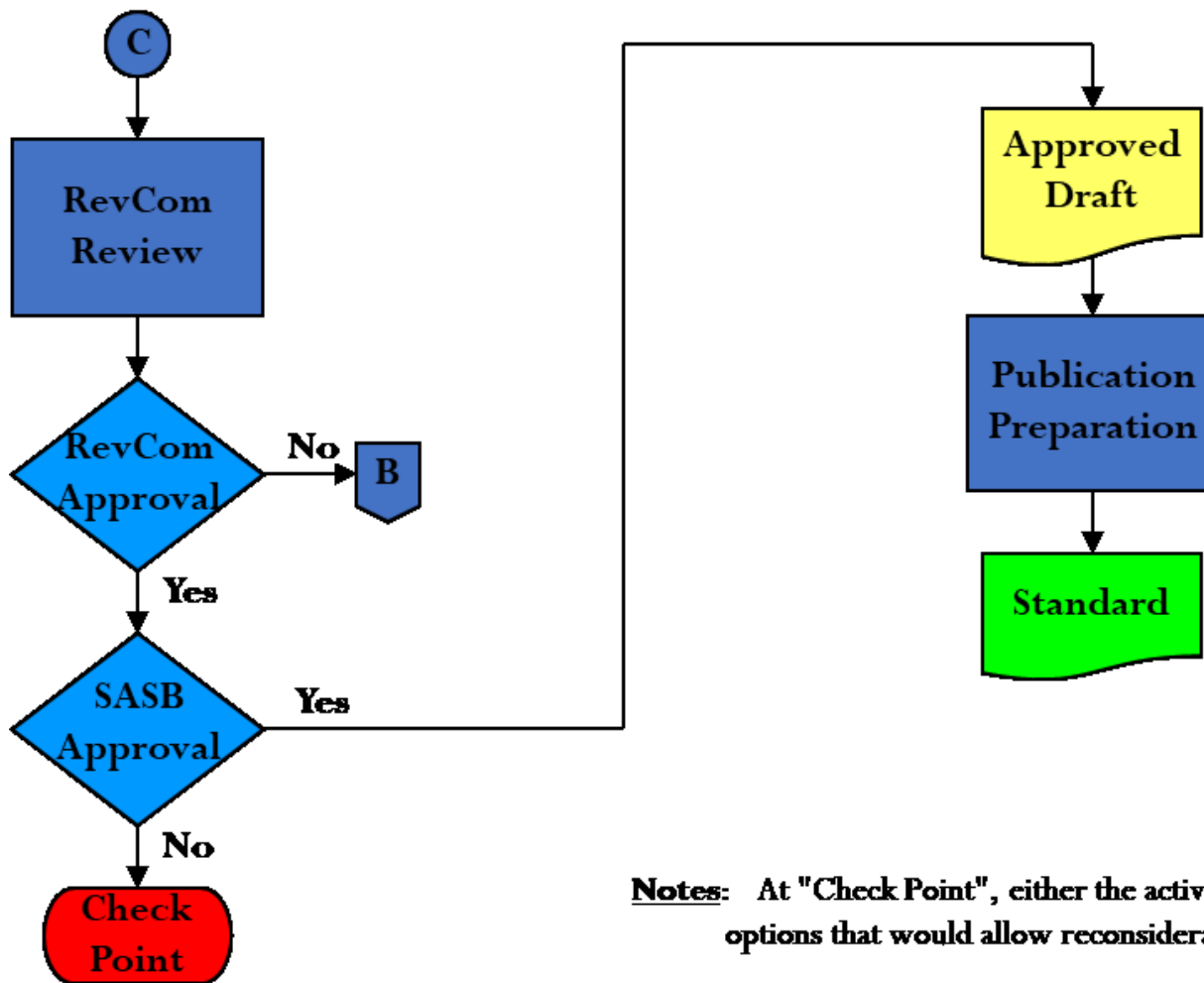
See 802.3 Operating Rules 7.1.4 and listed references for complete description

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.

SG Chartering Motion

Move that the IEEE 802.3 Ethernet Working Group authorizes the formation of a study group to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for "Next-generation 200 Gb/s and 400 Gb/s PHYs over fewer MMF pairs than in existing Ethernet projects and standards."

The Study Group

- Normal function is to draft a complete PAR and Five Criteria
- Provide a plenary week tutorial to the LMSC.
- Gain approval at the IEEE 802.3 WG, IEEE 802 EC, IEEE-SA NesCom and IEEE-SA Standards Board.
- SG only exists for 6 months
 - Extensions can be requested
 - Voted on by IEEE 802.3
 - Ratified by IEEE 802 EC
- Development of Objectives helps set the goals for the Task Force
- Consensus required to move forward

- Not a goal: choosing a solution.

Ad Hoc Report

- February 08, 2018: 31 attendees
 - Planned work needed for March Plenary
 - Concern was raised that CSD Responses on BMP and DI contains problematic wording that should be reviewed.
 - Reviewed “Broad Market Potential for 200Gb/s over 1-pair MM fiber” by Flavio Marques
 - Reviewed “Impact of Switch Radix on Server Cabling” by Rick Pimpinella
- February 22, 2018: 27 attendees
 - Reviewed “In Support of BMP, DI for both 4-pair and 8-pair MMF objectives at 400G” by Robert Lingle, Jr.
 - Discussed possible changes needed to the CSD response on submitted in Geneva in “BMP DI Updates for CSD Responses_NGMMF” led by Mabud Choudhury

Goals for the Week

- Review and respond to comments from the EC on our pre-submitted PAR and CSD Responses
- Review 4 contributions related to the proposed 200G objective over 1-pair MMF
- Consider motions that may be made regarding a 200G objective over 1-pair MMF
- Review 3 contributions related to our 400G objectives over 4-pairs and 8-pairs MMF
- Consider any modifications to project documentation required by comments from EC or motions adopted.
- Complete all work necessary to request approvals to become a Task Force

Schedule (1 of 2)

All times and order listed are subject to change.
 Updated versions will be captured with new filename versions.
 Check the NGMMF & 802.3 DIALOG Reflectors also.

Tuesday Room LAX - Entry				
Time	Presenter	Affiliation	Title	File Name
Note: NGMMF has permission to begin immediately if 802.3cd adjourns early, or else 6pm otherwise. The Chair does intend to give participants a 1 hour break to eat, TBD. Please attend 802.3cd in Grand Ballroom H Tuesday afternoon, or at least make that your place to read emails, so you will be close to the action. Updates will also be given on NGMMF and 802.3 Dialog Reflectors				
6:00 PM	Robert Lingle, Jr.	OFS	Agenda & General Information	agenda_NGMMF_01_mar18.pdf
6:30 PM	James Young	CommScope	In Support of 200G over 1 pair MMF Objective: Broad Market Potential (BMP) & Economic Feasibility (EF)	young_NGMMF_01_mar18.pdf
7:00 PM	Jonathan King	Finisar	200GBASE-SR1.4 technical feasibility	king_NGMMF_01_mar18.pdf
7:30 PM	David Lewis	Lumentum	BMP for 4-wavelength PMDs - evidence from 100G-SWDM4 modules	lewis_NGMMF_01_mar18.pdf
8:00 PM	Robert Lingle, Jr. Mabud Choudhury	OFS OFS	Comment Resolution on PAR & CSDs. Discuss mods to PAR, CSDs if SG adopts a 200G objective. [Note: this activity cannot begin until after comment deadline at 6:30pm]	TBD - see Rosemont page updates
If 802.3cd adjourns early enough, some presentations related to NGMMF 400G objectives that are scheduled for Wednesday at 10:40am or later could be pulled into Tuesday instead.				
11:00 PM	Break			

802 Room Assignments Page <https://schedule.802world.com/schedule/schedule/show>

802.3 Schedule Page http://ieee802.org/3/interims/0318_schedule_post_html.htm

Schedule (2 of 2)

All times and order listed are subject to change.
 Updated versions will be captured with new
 filename versions.
 Check the NGMMF & 802.3 DIALOG Reflectors also.

Wednesday Room LAX - Entry				
Note: this 8am to 10:20am session will occur as shown, regardless of other agenda adjustments that may occur				
8:00 AM	Paul Kolesar	CommScope	Evidence of Broad Market Potential for 200G over 1-pair MMF	kolesar_NGMMF_01_mar18.pdf
8:50 AM	Motions			
10:20 AM	Coffee Break			
10:40 AM	Rick Pimpinella	Panduit	In support of 400GBASE-SR8 Broad Market Potential	pimpinella_NGMMF_01_mar18.pdf
11:20 AM	Zuowei Shen	Google	400G-SR8 Broad Applications for Datacenters	shen_NGMMF_01_mar18.pdf
12:00 PM	Lunch			
1:30 PM	Robert Lingle, Jr.	OFS	In support of Broad Market Potential (BMP) & Distinct Identity (DI) for both 4-pair & 8-pair MMF objectives at 400G	lingle_NGMMF_01_mar18.pdf
2:15 PM	Jose Castro	Panduit	Link Model Spreadsheet for Optical PAM-4 Channels	castro_NGMMF_01_mar18.pdf
3:00 PM	Coffee Break			
3:30 PM			Time for further deliberations if needed	
4:00 PM				
4:30 PM				
5:00 PM				
5:30 PM				
6:00 PM	Adjourn			

802 Room Assignments Page <https://schedule.802world.com/schedule/schedule/show>

802.3 Schedule Page http://ieee802.org/3/interims/0318_schedule_post_html.htm

Future Meetings

- See: <http://www.ieee802.org/3/interims/index.html>
- **May 2018**
 - Week of May 21, 2018
 - Omni William Penn Hotel
 - Pittsburgh, PA, USA
- **July 2018**
 - Week of July 9, 2018
 - Manchester Grand Hyatt
 - San Diego, CA, USA
- **Sept 2018**
 - Week of Sept 10, 2018
 - TBD
- **Nov 2018**
 - Week of July 9, 2018
 - Marriott Marquis Queen's Park
 - Bangkok, Thailand

Thank You!