

Agenda and General Information

IEEE 802.3 400 Gb/s/lane Signaling (400GPL) Study Group

Kent Lusted, Synopsys

Chair, IEEE 802.3 400G/s/Lane Signaling Study Group

30 June 2026 Electronic Interim Meeting

Agenda

- Approve Agenda
- Approve Previous Minutes, if needed
- Decorum Reminders
- Goals for this meeting
- Reflector and Web
- Ground Rules
- IEEE
 - Structure, Bylaws and Rules
 - Call for Patents
 - IEEE Standards Process
- Presentations, Straw Polls and Motions (see slide 6)
- Closing Business
 - Motions
 - Future Meetings

General Decorum

- An officer of the Standards Committee or any of its subgroups, unless prohibited by the P & P of the Standards Committee or Working Group, is permitted to record the proceedings of an IEEE standards development meeting for which they are responsible by making an audio or slideshow recording or by producing a transcript using software or an artificial intelligence (AI) application approved by IEEE. **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. Software or AI shall not be used if it enables persons other than the officer making the recording or authorized Standards Department staff to initiate or obtain the transcription or recording.
 - See subclause 5.3.3.2 of the January 2026 IEEE-SA Standards Board Operations Manual
- If a member of the press (i.e., anyone reporting publicly on this meeting) attends a standards development meeting, they shall either inform the chair before the meeting or at the beginning of the meeting of their attendance. The chair shall then announce the presence of the press in attendance at the meeting.
 - See subclause 5.3.3.3 of the January 2026 IEEE-SA Standards Board Operations Manual

Teleconference Decorum



- Please **MUTE** unless called on
- Use the “**Chat**” function to be placed into the queue
- The chat can only send to “Everyone” or the officers
- Please observe proper decorum in meetings

IEEE 802 Decorum Guidance

- IEEE 802 “Decorum Guidance” @ <https://mentor.ieee.org/802-lmsc/dcn/26/lmsc-26-0015-06-0PNP-decorum-guidance.docx>.
-
- This document provides guidance on addressing any decorum issues that may come up, and will be leveraged, if the need arises, accordingly.

Presentations/Motions/Straw Polls

- “Fiber channel model - evolving considerations for modern datacenters”, Rob Stone, Meta
- “Building Toward a Baseline – 400GBASE-DR1, 800GBASE-DR2, 1.6TBASE-DR4”, Brian Welch, Cisco
- “Feasibility Study and DSP Considerations for 400G/lane PAM4 Co-Packaged Optics”, Tom Berger, Huawei
- “Modulation and FEC Considerations for 400GPL Electrical Links”, Balazs Matuz, Huawei

Review of IEEE SA Policies

- Email sent to Reflector reminding all to review and be familiar with following policies:
 - IEEE SA Patent Policy
 - IEEE SA Copyright Policy
 - IEEE SA Participation Slides
- See Backup for slides or <http://ieee802.org/3/policies.html>.

IEEE 802.3 400 Gb/s/Lane Signaling Study Group Information

- Organization
 - Kent Lusted, Chair
 - Mark Nowell, Vice Chair
 - Beth Kochuparambil, Recording Secretary
- Study Group Web and Reflector Information
 - Home Page: <https://www.ieee802.org/3/400GPL/index.html>
 - Reflector Info: stds-802-3-400GPL@listserv.ieee.org
- Project Documentation
 - Draft PAR:
 - <https://mentor.ieee.org/802-lmsc/dcn/26/lmsc-26-0120-00-LMSC-ieee-p802-3dv-draft-par.pdf>
 - Draft CSD:
 - <https://mentor.ieee.org/802-lmsc/dcn/26/lmsc-26-0121-00-LMSC-ieee-p802-3dv-draft-csd.pdf>
 - Draft Objectives:
 - https://www.ieee802.org/3/400GPL/public/project_docs/400GPL_Objectives_260511.pdf

Reflector

- To subscribe to the 400GPL reflector, send an email to:

ListServ@ieee.org

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

subscribe stds-802-3-400GPL *<yourfirstname> <yourlastname>*
end

- Send 400GPL reflector messages to:

stds-802-3-400GPL@listserv.ieee.org

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

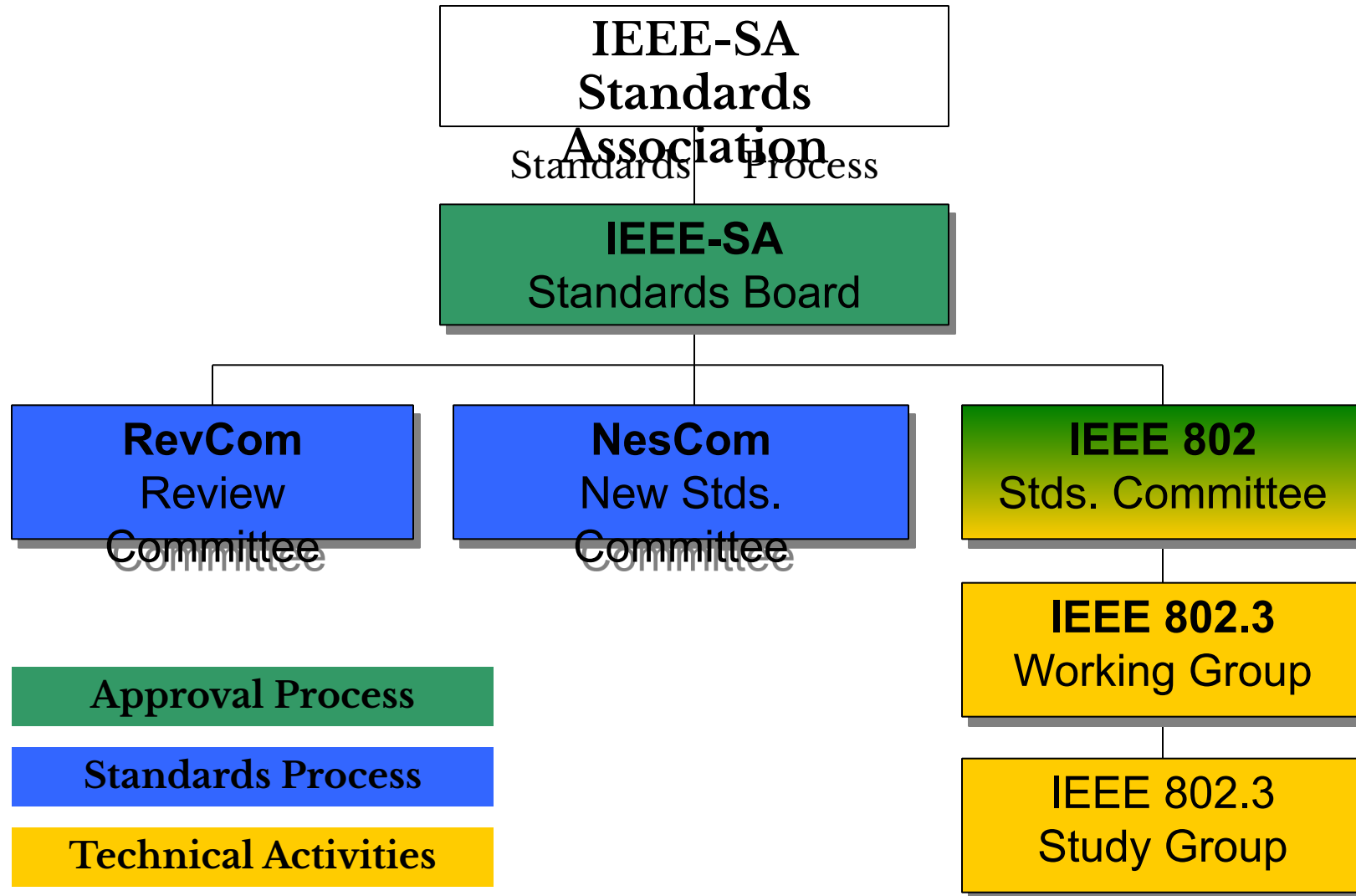
Membership

- Membership requirements (gaining)
 - Attendance in at least 75% of meeting slots at 2 of the last 4 plenary sessions
 - Attendance in at least 75% of meeting slots at recent IEEE 802.3 Ethernet Working Group or Task Group Interim Session may be substituted for one of the two Plenary Sessions
 - Attendance **in at least 75% of the meeting slot's duration** is required for that attendance to count towards gaining or maintaining voting membership
 - **You can only** claim IMAT attendance credit if you attend at least 75% of slot's duration
 - Note – Claiming IMAT attendance credit if you have not attended at least 75% of a slot's duration is not in accordance with IEEE Policies and Procedures, and is a violation of the IEEE Code of Conduct
 - Officers may remove IMAT attendance credit if you attend less than 75% of slot's duration
 - Provide declaration of affiliation and valid contact information
 - Request to become member during potential voter agenda item at an IEEE 802.3 Ethernet Working Group opening or closing **plenary** meeting
- Membership requirements (retaining)
 - Continue to meet above attendance, contact, and affiliation requirements
 - Participate in **two** out of the last **three** Working Group Letter Ballot Series
- For more details see: <https://www.ieee802.org/3/rules/member.html>
- Note - If you are not eligible to sign in to IMAT to claim attendance credit, for example, you are not going to attend for 75% of the meeting and have not provided your name and affiliation through [Zoom|WebEx], please send an email to Kent Lusted and Beth Kochuparambil to be recorded in the minutes.
- Note – Meeting attendance records can not be used as evidence to request IMAT attendance credit for a slot.

Attendance

- Tutorial Material on attendance tool
 - http://ieee802.org/3/minutes/attendance_procedures.pdf
- Access details
 - URL: <http://imat.ieee.org/>
 - No password

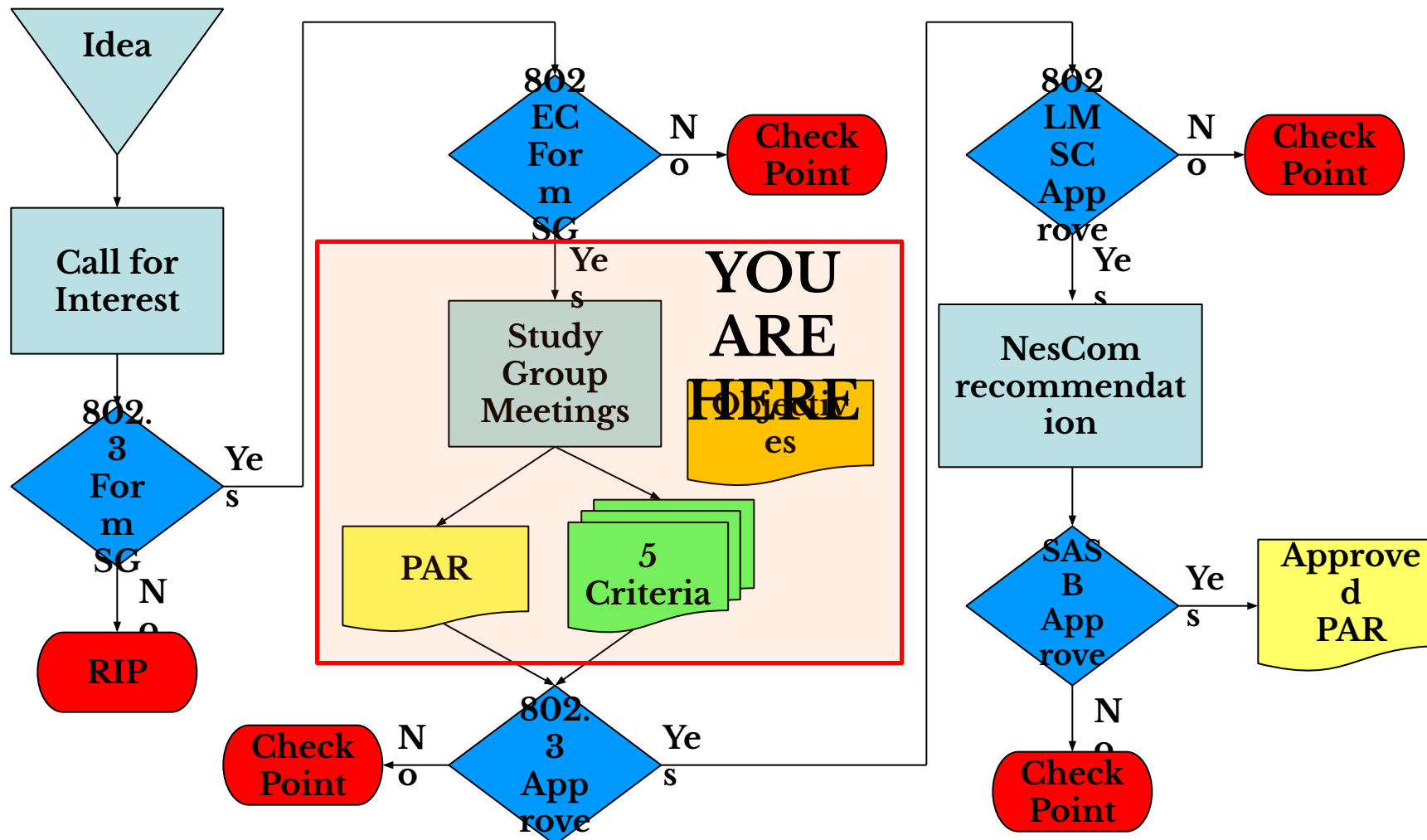
IEEE Structure



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**
<https://ieee.app.box.com/v/PandP-LMSC>
- **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

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.

The Study Group

- Normal function is to **draft a complete PAR and Criteria for Standards Development (CSD)**
- Provide a plenary week tutorial to the IEEE 802 LMSC if needed
 - Recommended for major new work items
- **Gain approval** at the IEEE 802.3 WG, IEEE 802 LMSC, 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 LMSC
- Development of Objectives helps **set the goals for the Task Force**
- **Consensus required** to move forward

- **Not choosing a solution**

Next Steps

- At July Plenary:
 - The Study Group needs to refine (if needed) and adopt final responses to PAR and CSDs
 - Working Group to review and approve project documentation and objectives
- Between now and first Task Force meeting
 - Initiate technical discussions towards solutions for objectives or consider additional objectives

Future Meetings

- See: <http://www.ieee802.org/3/interims/index.html>
- July 2026 Plenary
 - Montreal, Quebec, Canada
 - Week of 13 July 2026
- September 2026 Interim
 - Lisbon, Portugal
 - Week of 14 Sept 2026
- Electronic interim teleconference meetings
 - 30 July 2026, 7-10am Pacific (tentative)
 - 6 August 2026, 7-10am Pacific (tentative)
 - 20 August 2026, 7-10am Pacific (tentative)

Thank You!

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 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. Formally object to the discussion immediately.

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*

IEEE SA

STANDARDS
ASSOCIATION

<http://standards.ieee.org/develop/policies/antitrust.pdf>

08 June 2021

If you have questions, contact the IEEE SA Standards Board Patent Committee Administrator at patcom@ieee.org



INSTRUCTIONS FOR CHAIRS OF STANDARDS DEVELOPMENT ACTIVITIES

At the beginning of each standards development meeting the chair or a designee is to:

- Show the following slides (or provide them beforehand)
- Advise the standards development group participants that:
- IEEE SA's copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
- Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy;
- Instruct the Secretary to record in the minutes of the relevant meeting:

IEEE SA STANDARDS that the foregoing information was provided and that the copyright slides were shown (or provided beforehand).



IEEE SA COPYRIGHT POLICY

By participating in this activity, you agree to comply with the IEEE Code of Ethics, all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.

- Previously Published material (copyright assertion indicated) shall not be presented/submitted to the Working Group nor incorporated into a Working Group draft unless permission is granted.
- Prior to presentation or submission, you shall notify the Working Group Chair of previously Published material and should assist the Chair in obtaining copyright permission acceptable to IEEE SA.
- For material that is not previously Published, IEEE is automatically granted a license to use any material that is presented or submitted.

IEEE SA COPYRIGHT POLICY

- The IEEE SA Copyright Policy is described in the IEEE SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual

- IEEE SA Copyright Policy, see
Clause 7 of the IEEE SA Standards Board Bylaws
<https://standards.ieee.org/about/policies/bylaws/sect6-7.html#7>
Clause 6.1 of the IEEE SA Standards Board Operations Manual
<https://standards.ieee.org/about/policies/opman/sect6.html>

- IEEE SA Copyright Permission

- <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/permissionltrs.zip>

- IEEE SA Copyright FAQs

- <https://standards.ieee.org/faqs/copyrights/>

- IEEE SA Best Practices for IEEE Standards Development

IEEE SA https://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf



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Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct

All participants in IEEE-SA activities are expected to adhere to the core principles underlying the:

- [IEEE Code of Ethics](#)
- [IEEE Code of Conduct](#)

The core principles of the IEEE Codes of Ethics & Conduct are to:

- *Uphold the highest standards of integrity, responsible behavior, and ethical and professional conduct*
- *Treat people fairly and with respect, to not engage in harassment, discrimination, or retaliation, and to protect people's privacy.*
- *Avoid injuring others, their property, reputation, or employment by false or malicious action*

The most recent versions of these Codes are available at
<http://www.ieee.org/about/corporate/governance>

Participants in the IEEE-SA “*individual process*” shall act independently of others, including employers

The [IEEE-SA Standards Board Bylaws](#) require that “*participants in the IEEE standards development individual process shall act based on their qualifications and experience*”

This means participants:

- **Shall act & vote** based on their personal & independent opinions derived from their expertise, knowledge, and qualifications
- **Shall not act or vote** based on any obligation to or any direction from any other person or organization, including an employer or client, regardless of any external commitments, agreements, contracts, or orders
- **Shall not direct** the actions or votes of other participants or retaliate against other participants for fulfilling their responsibility to act & vote based on their personal & independently developed opinions

By participating in standards activities using the “*individual process*”, you are deemed to accept these requirements; if you are unable to satisfy these requirements then you shall immediately cease any participation

IEEE SA standards activities shall allow the fair & equitable consideration of all viewpoints

The [*IEEE SA Standards Board Bylaws*](#) (clause 5.2.1.3) specifies that “the standards development process shall not be dominated by any single interest category, individual, or organization”

- This means no participant may exercise “authority, leadership, or influence by reason of superior leverage, strength, or representation to the exclusion of fair and equitable consideration of other viewpoints” or “to hinder the progress of the standards development activity”

This rule applies equally to those participating in a standards development project and to that project’s leadership group

Any person who reasonably suspects that dominance is occurring in a standards development project is encouraged to bring the issue to the attention of the Standards Committee or the project’s IEEE SA Program Manager

Participants in attendance at IEEE Standards development activity meetings shall follow appropriate meeting decorum, and the SA meeting rules, including but not limited to:

- Recording (e.g., via audio, video, photography, artificial intelligence (AI) application or other software) of the proceedings by any participant or observer other than Officers of this IEEE standards development group, in part or in whole, via any means, is NOT permitted. (See IEEE Standards Board Operations Manual subclause 5.3.3.2 Recordings of the proceedings of standards development meetings)
- Participants intending to report publicly on this meeting (e.g., news outlets, social media, or online forums) shall inform the Chair of their attendance and the Chair shall announce their presence and their intent to report publicly.(See IEEE Standards Board Operations Manual Subclause 5.3.3.3 Press attendance)
- Participants shall comply with IEEE SA Standards Board Operations Manual 5.1.4 Standards promotion and social media communication

IEEE ETHICS REPORTING LINE

Ethics Reporting Line

Attention!

This web page is hosted on EthicsPoint's (owned and operated by NAVEX) secure servers and is not part of the Institute of Electrical and Electronics Engineers web site or intranet.

[Make a Report](#)[Follow-up on a Report](#)

ETHICS AT IEEE

IEEE strives to achieve the highest standards of integrity and endeavors to conduct business around the world in a responsible and ethical way. It is important that those who act on the organization's behalf ensure IEEE's compliance by adhering to the same standards and expectations.

When you become aware of or suspect a violation of IEEE's Code of Ethics, Code of Conduct or Policies, raising your concern should be as easy as possible. For this reason, IEEE has selected EthicsPoint, an independent third party for the receipt and resolution of reports of impropriety. The information you provide will be sent to IEEE by EthicsPoint on an entirely confidential (and, if you choose, anonymous) basis. (For more information see, [IEEE's Ethics Reporting Line FAQ](#))

We will review every concern raised using a defined process to ensure fairness and consistency as defined in IEEE's Bylaws and Policies. We will treat you with dignity and respect throughout the process. You can trust that we will handle your question or concern seriously and as soon as practicable. If something needs to be addressed, we will take action based on what we learn.

ETHICSPPOINT IS NOT A 911 OR EMERGENCY SERVICE:

Do not use this site to report events presenting an immediate threat to life or property. Reports submitted through this service may not receive an immediate response. If you require emergency assistance, please contact your local authorities.

TO MAKE A REPORT

You may use either of the following two methods to submit a report: dial toll-free, within the United States, Guam, Puerto Rico, and Canada: **+1 888 359 6323** Or select the **"Make a Report"** link at the top of this Web page.

After you complete your report, you will be assigned a unique code called a "report key." Write down your report key and password and keep them in a safe place. After **7-10** business days, use your report key and password to check your report for feedback or questions.

Please be aware that the IEEE Ethics Reporting Line will only accept complaints regarding IEEE's business and activities. IEEE will not review or accept complaints regarding any other organization, including the employers of members. IEEE members seeking ethical assistance regarding their employers should seek their own counsel or consult their employers.

NON-RETALIATION POLICY

It is the policy of IEEE not to take any retaliatory action against any director, officer, manager, employee or volunteer for raising a good faith compliance or ethics concern, for making a good faith report of a possible violation of the IEEE Code of Ethics, Code of Conduct or IEEE Policies, or assisting or cooperating in an investigation of a possible violation.

Any elected director or officer of IEEE and any staff manager or employee who engages in any such retaliatory action can be punished by penalties up to and including expulsion from IEEE membership for a volunteer and termination of employment for any IEEE staff member.

OTHER COMPLIANCE INQUIRIES may be directed to compliance@ieee.org.

Reports alleging violations of IEEE's Code of Conduct, Code of Ethics, or other policies and rules, can be reported in two ways:

- **Phone:** +1 888-359-6323
- **Web:** www.ieee-ethics-reporting.org

Under IEEE Bylaw I-110 and IEEE Policy 7.10, any individual may report an allegation of misconduct against a member, or a non-member engaged in an IEEE activity. Reports may be filed anonymously.

References

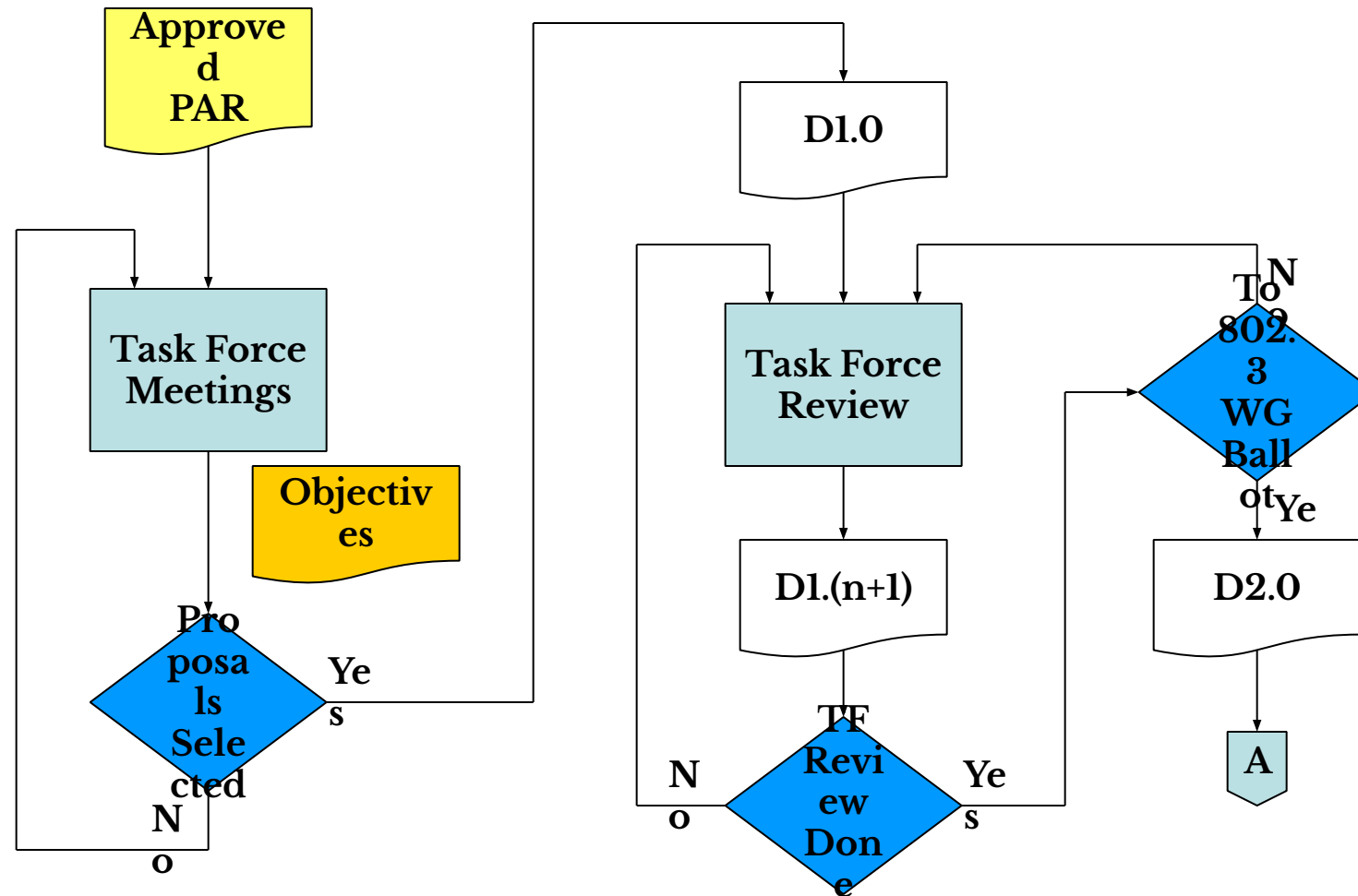
Code of Ethics:

<https://www.ieee.org/about/corporate/governance/p7-8.html>

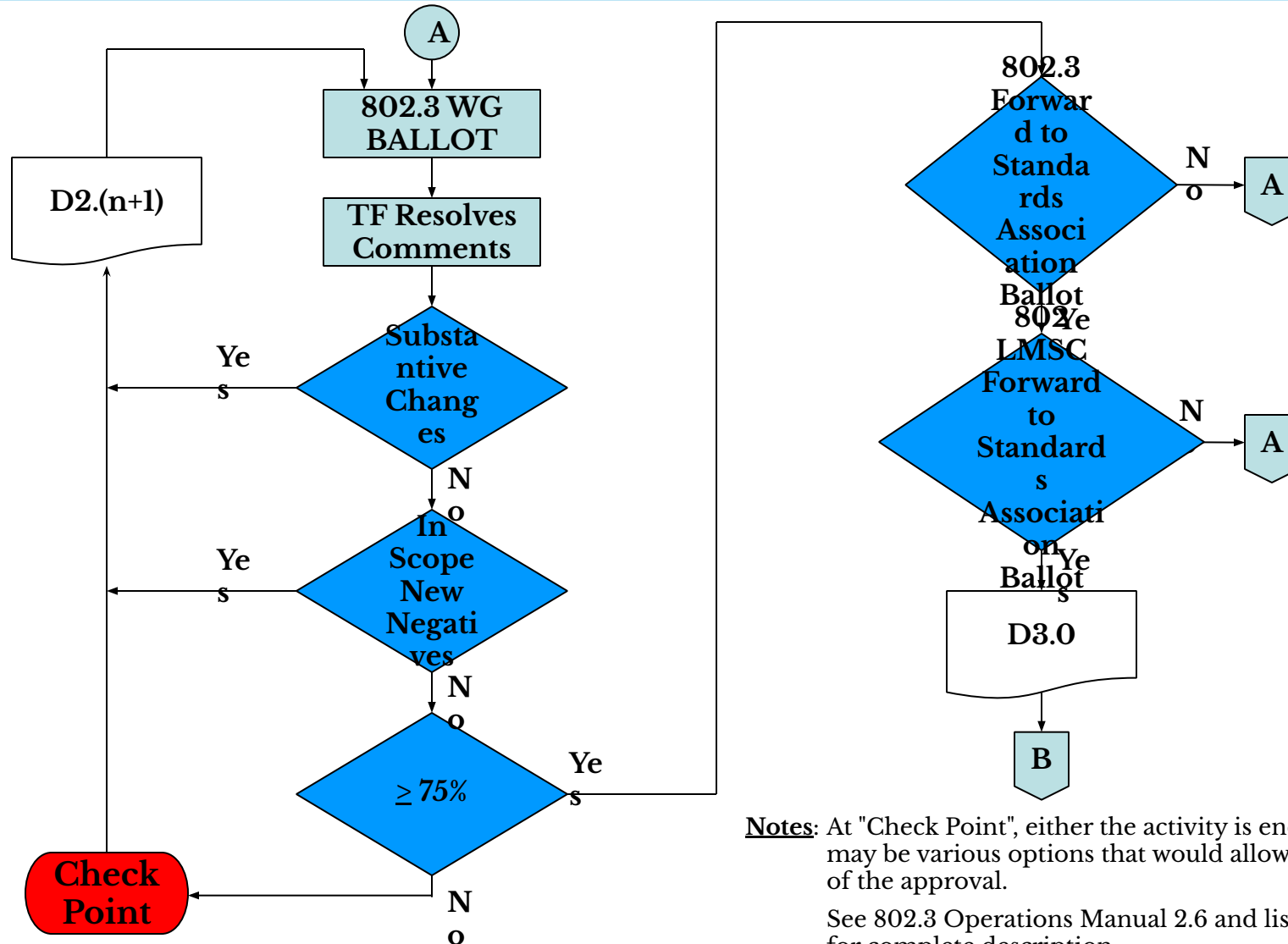
Code of Conduct:

<https://www.ieee.org/about/corporate/governance/code-of-conduct.html>

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



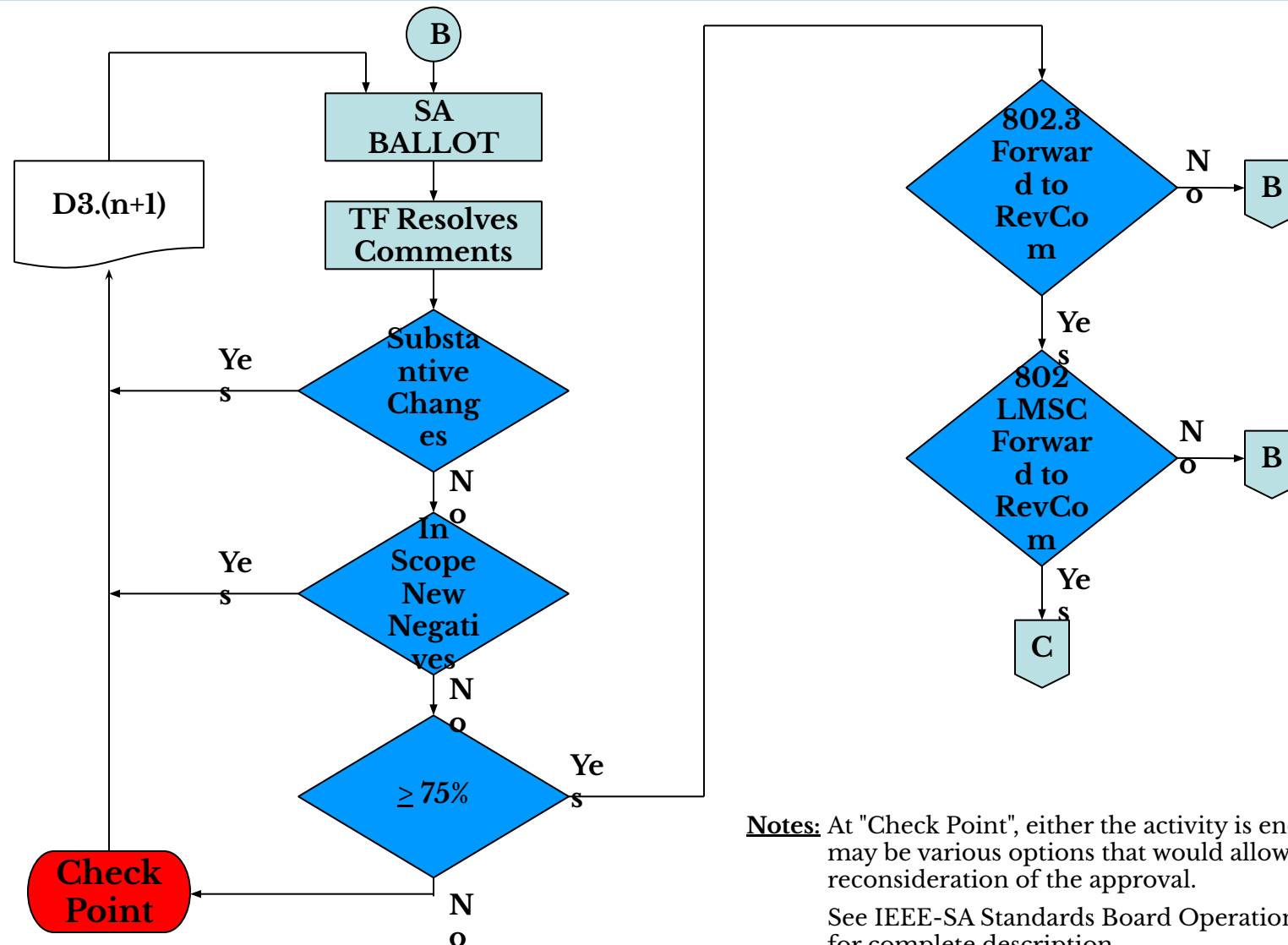
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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 Operations Manual 2.6 and listed references for complete description

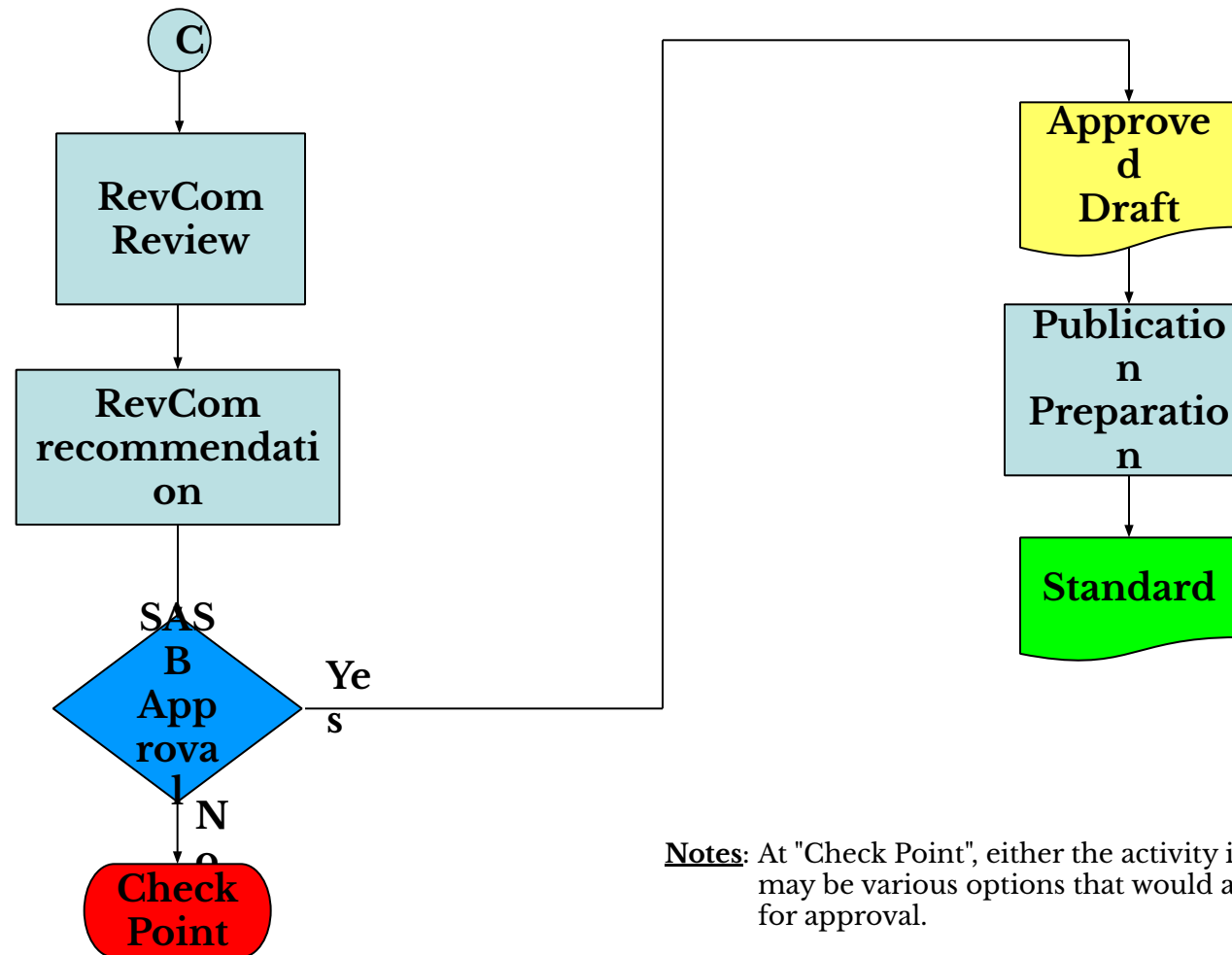
Overview of IEEE 802.3 Standards Process (4/5)- IEEE Standards Association (SA) Ballot Phase



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

See IEEE-SA Standards Board Operations Manual 5.4 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.