Agenda and General Information

IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Task Force

Chad Jones

Cisco Systems, Inc.

Teleconference, December 16, 2020

Agenda

- ~~Appointment of Recording Secretary~~
- Welcome and Introductions
- Approve Agenda
- Approve November 18, 2020 and December 2, 2020 Minutes
- Goals for this meeting
- Big Ticket Items
- Reflector and Web
- Ground Rules
- IEEE
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- ~~Liaisons and Communications~~
- ~~Comment resolution~~
- Presentations
- Timeline
- Work List review
- Motions and Closing Business
- Future Meetings

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. (January 2020 IEEE-SA Standards Board Ops Manual 5.3.3.2)
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (January 2020 IEEE-SA Standards Board Ops Manual 5.3.3.3)
- The conference tool in use for this meeting has a chat function. Public, and in some cases private chats, are available to the teleconference host after the meeting, and should be treated as a public statement that could appear in the minutes. The public chat function shall only be used for official business related to the meeting, as determined by the Chair.
- Cell phone ringers off
- Please observe proper decorum in meetings – **MUTE WHEN NOT TALKING**

Goals for the meeting

- Work Items
- Presentations

Big ticket items

- Owners of work items
- BASELINE TEXT

Reflector and Web

- To subscribe to the P802.3da reflector, send an email to:

  ListServ@ieee.org

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

  subscribe stds-802-3-SPMD <yourfirstname> <yourlastname>

  end

- Send P802.3da reflector messages to:

  stds-802-3-SPMD@listserv.ieee.org

- Task Force web page URL:

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

Task Force Private Area

- URL: Not created yet
  - Username:
  - 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

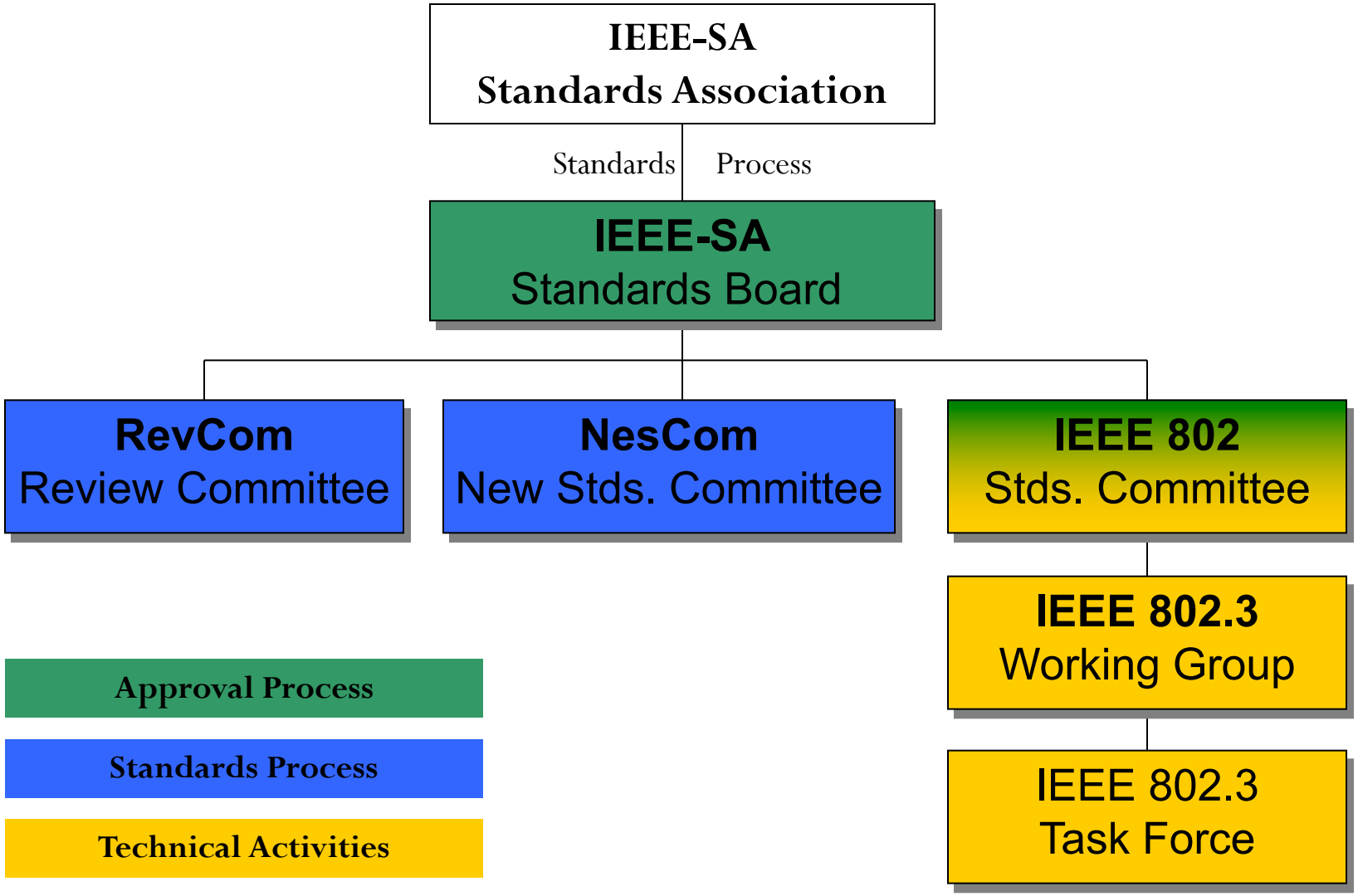
- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**… give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
-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

Attendance

- Tutorial Material on attendance tool
  - http://ieee802.org/3/minutes/attendance_procedures.pdf

- Access details
  - URL: http://imat.ieee.org/
  - 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

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

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
  - http://standards.ieee.org/faqs/copyrights.html/
- IEEE SA Best Practices for IEEE Standards Development
  - http://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf
- Distribution of Draft Standards (see 6.1.3 of the SASB Operations Manual)
  - https://standards.ieee.org/about/policies/opman/sect6.html

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

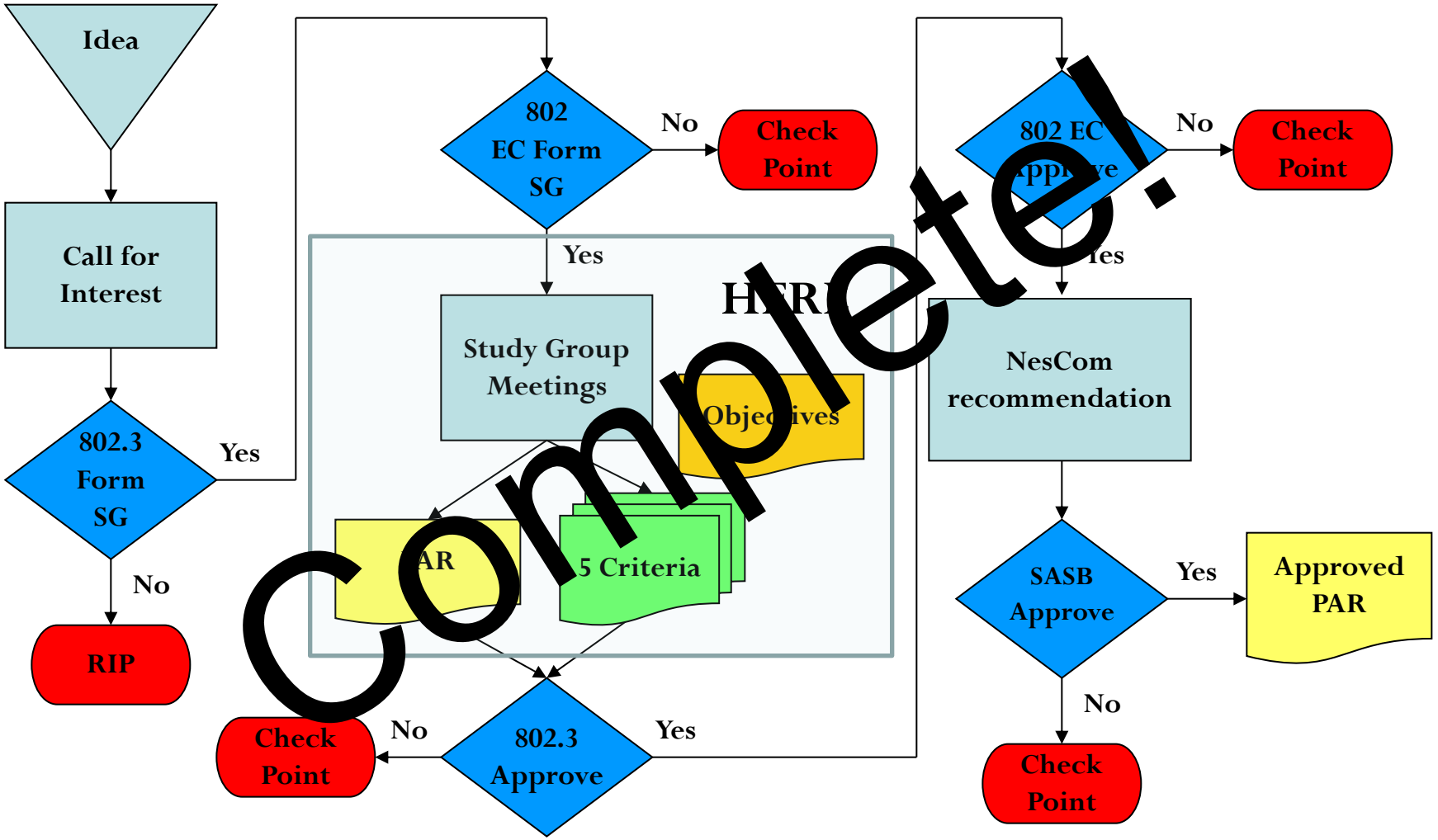
Participants in the IEEE-SA "*individual process*" shall act independently of others, including employers

- 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

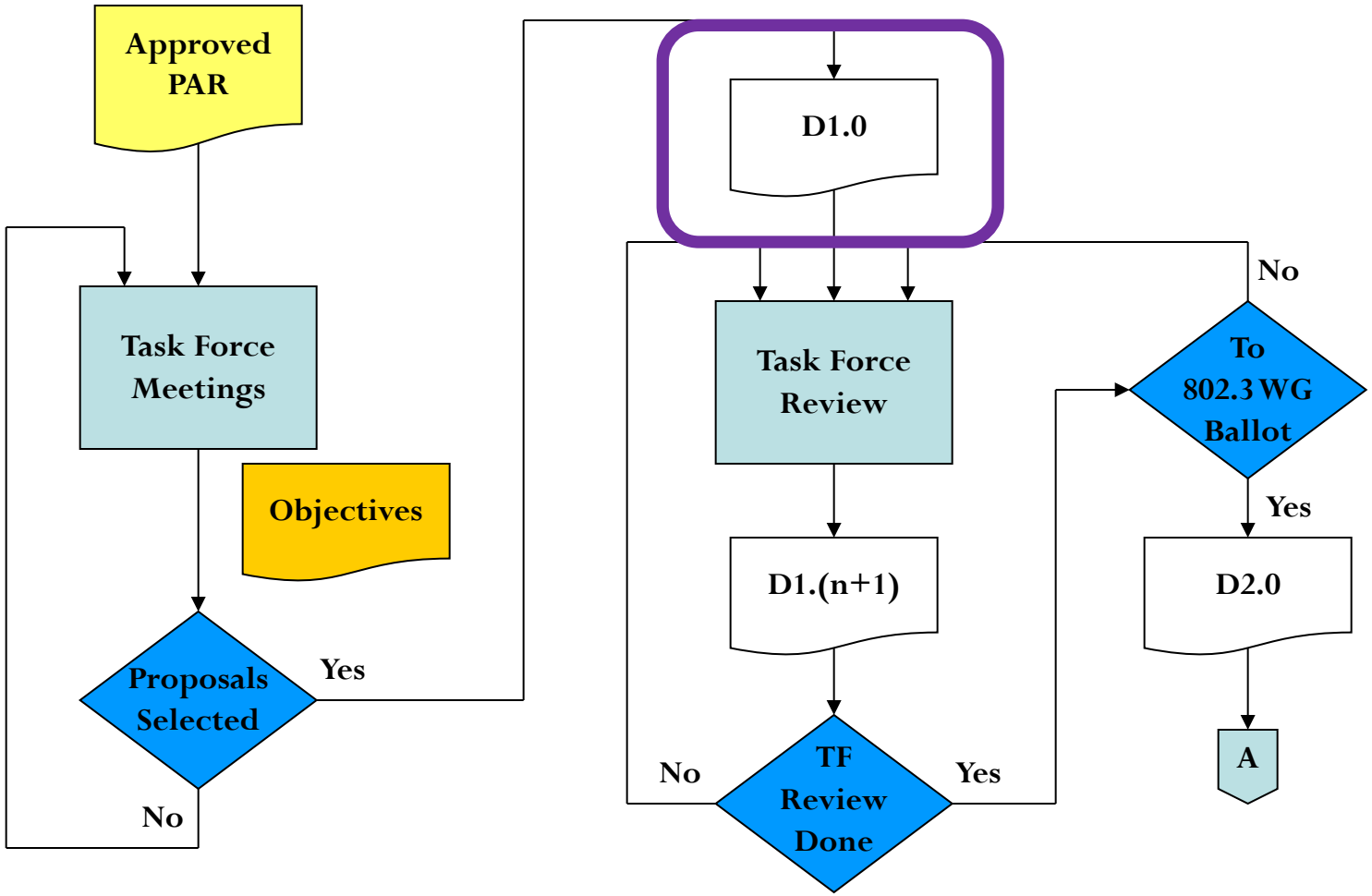
- The IEEE-SA Standards Board Bylaws (clause 5.2.1.3) specifies that "*the standards development process shall not be dominated by any single interest category, individual, or organization*"
  - This means no participant may exercise *"authority, leadership, or influence by reason of superior leverage, 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

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

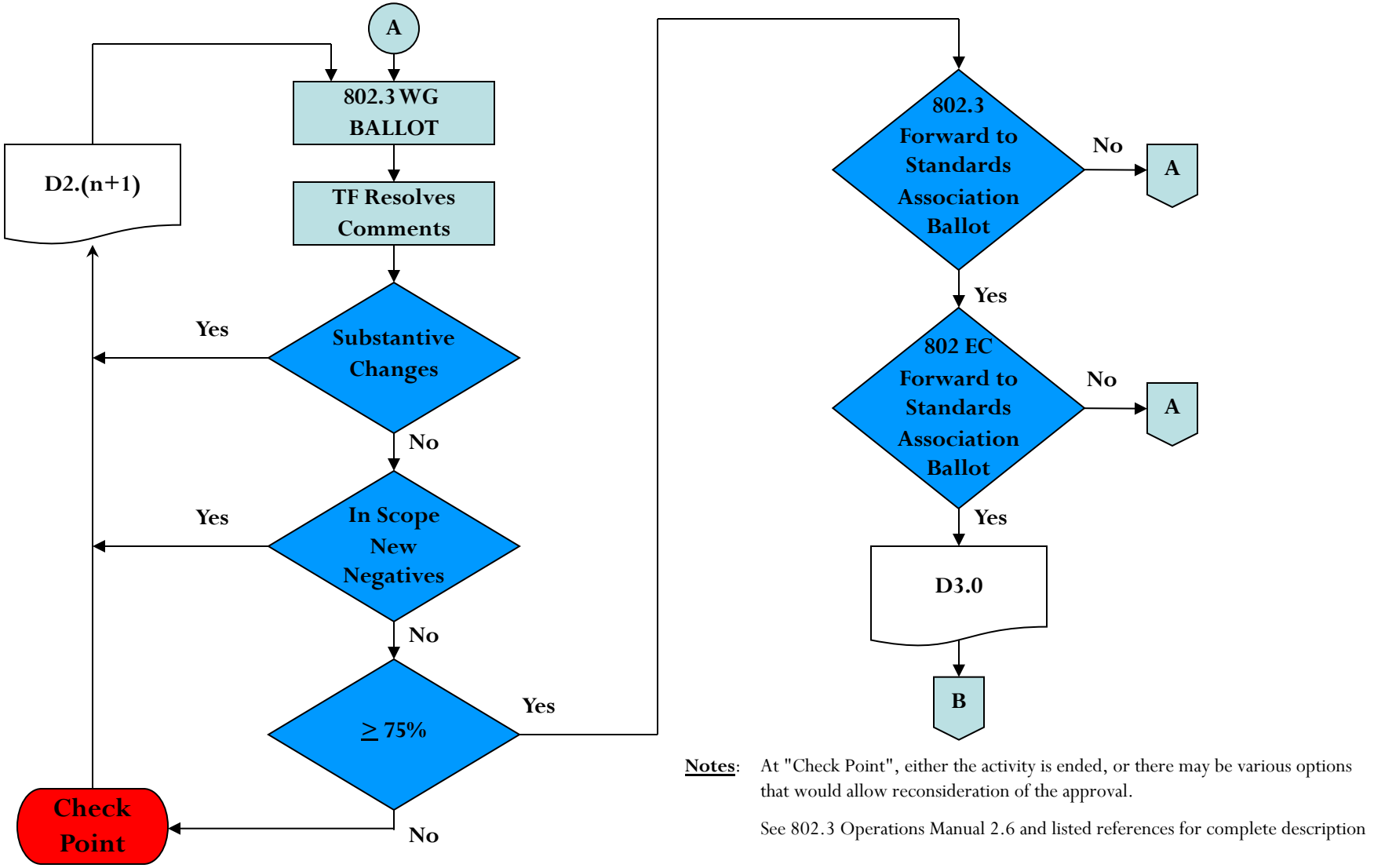


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



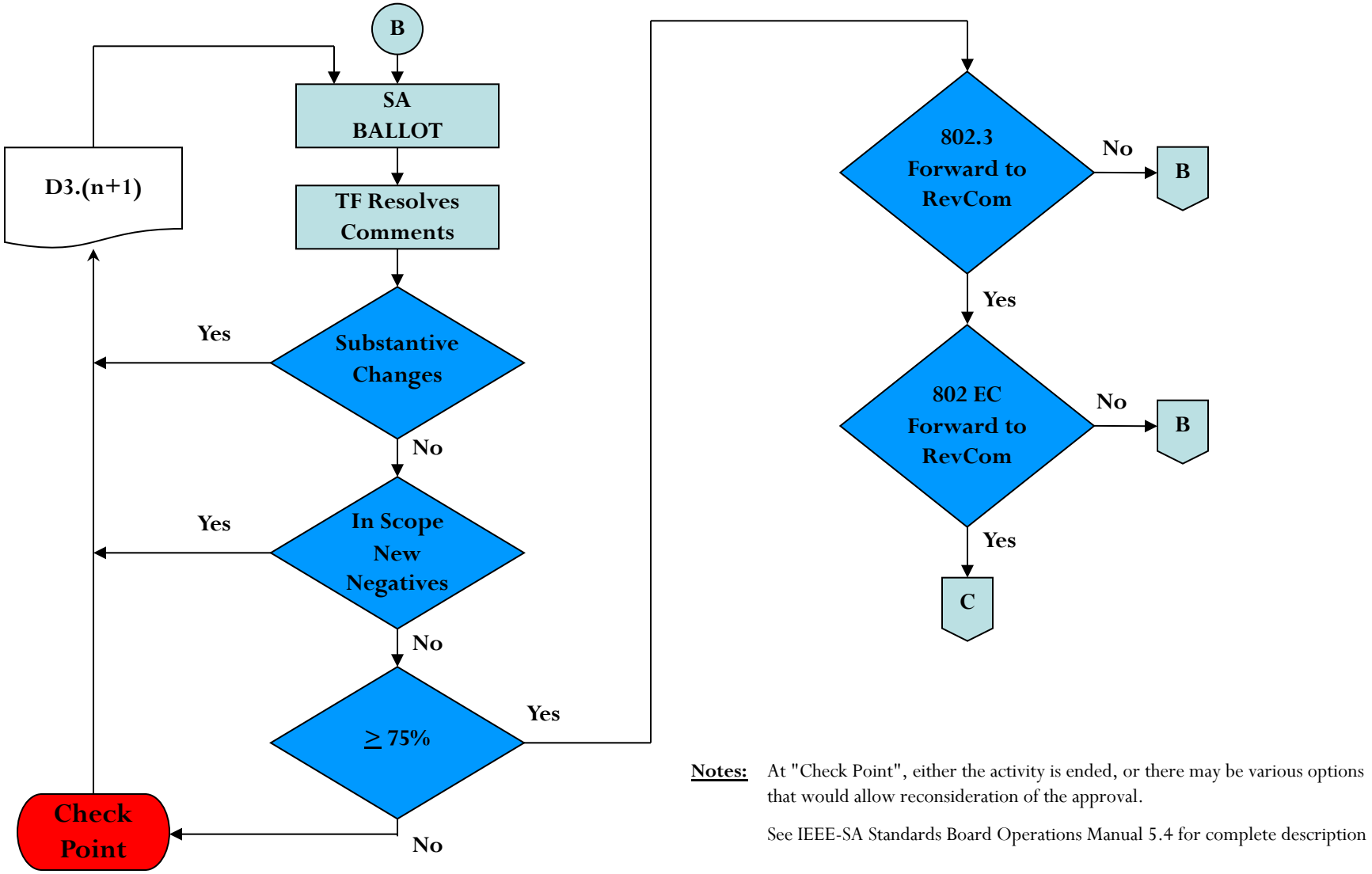
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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 Operations Manual 2.6 and listed references for complete description

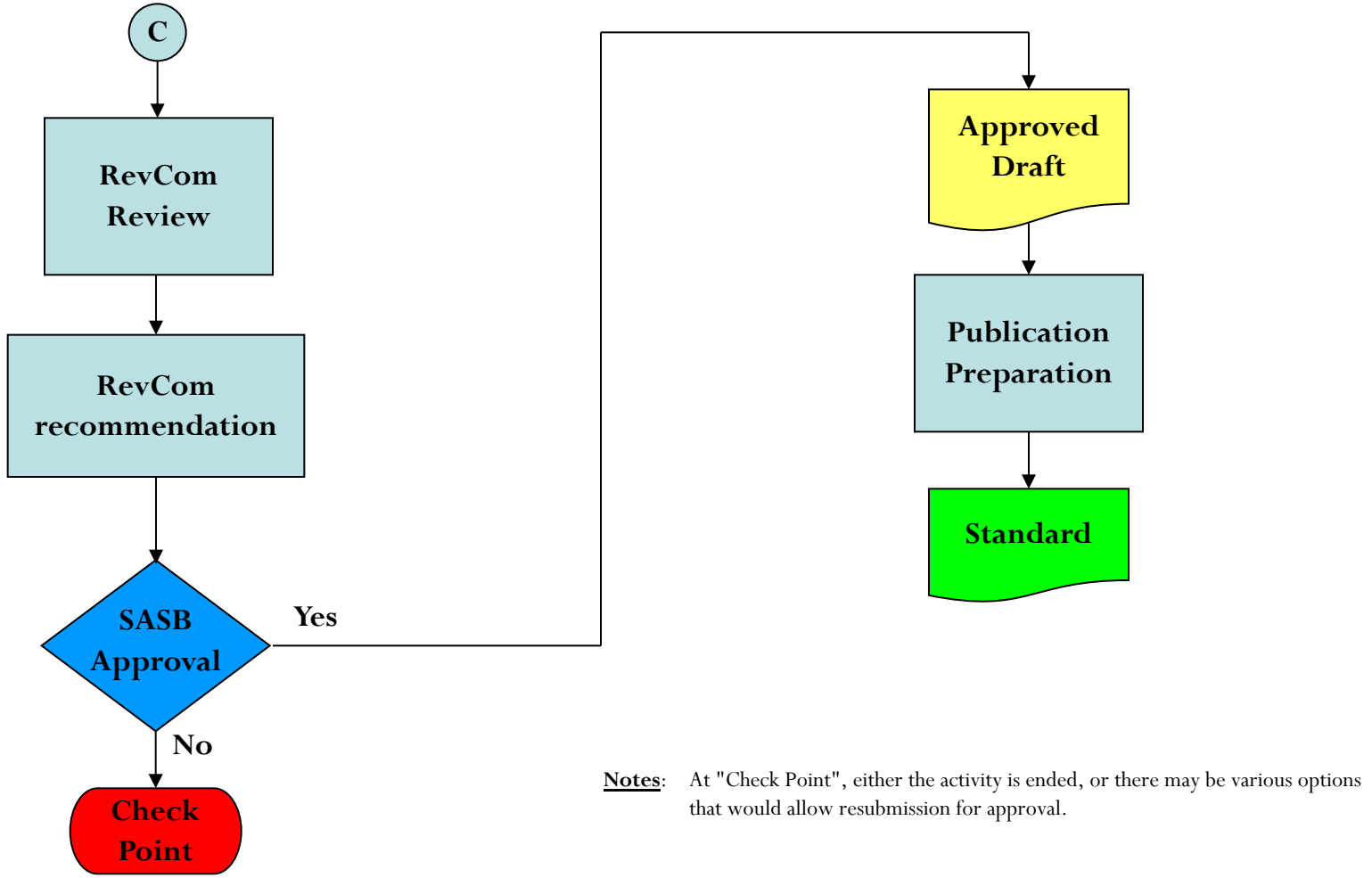
Overview of IEEE 802.3 Standards Process (4/5)- IEEE Standards Association (SA) Ballot Phase



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.

IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Approved Project Documents

- PAR
  - http://www.ieee802.org/3/da/P802d3da_PAR.pdf
  - 5 Criteria
  - https://mentor.ieee.org/802-ec/dcn/20/ec-20-0096-00-ACSD-p802-3da.pdf
  - Objectives
  - http://www.ieee802.org/3/da/802d3da_objectives.pdf

IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Objectives

1. Define performance characteristics of a mixing segment for 10Mb/s multidrop single balanced pair networks supporting up to at least 16 nodes, for up to at least 50m reach.
2. Maintain a bit error ratio (BER) at the MAC/PLS service interface of less than or equal to 10^{-10} on the new mixing segment.
3. Specify an optional PLCA node ID allocation method
4. Support interoperability with Clause 147 multidrop
5. Support optional Time Synchronization Service Interface (TSSI)
6. Select a single MDI connector

IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Objectives

7. Specify improvements for Energy Efficient Ethernet compared to current 10Mb/s multidrop single balanced pair networks
8. Support operation in the noise environments for building, industrial, and transportation applications
9. Specify optional plug-and-play power distribution over the mixing segment
10. PSE shall only energize the mixing segment when at least one PD is connected
11. Support addition and removal of a node or set of nodes to a continuously operating powered mixing segment

Presentations

Title	Presenter
Power Coupling Inductance and Droop pt 2	Michael Paul

IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Timeline, V2

year	month	output	event
2020	jul		
	sep		
	nov		
2021	jan	D0.1	
	mar	D0.2	
	may	D0.3	TF review
	jul	D1.0	
	sep	D1.1	
	nov	D1.2	
2022	jan	D1.3	WG ballot
	mar	D2.0	
	may	D2.1	
	jul	D2.2	
	sep	D2.3	SA Ballot
	nov	D3.0	
2023	jan	D3.1	
	mar	D3.2	
	may-jul		STD

Area	Description	Submitter	Owners
Power	Startup Sequence	Chad J	Michael Paul
Power, Mixing Segment	Topology, allow Y connections?, spur/stub length?	Chad J	Bob Voss
Power	power specifications (max & min voltages / power levels / max currents / loop resistances) and what regulations set these limits	George Z	Michael Paul
Mixing Segment	specifications (IL, RL, mode conversion, etc.), MDI specs (tighter than CG?)	George Z	Chris Diminico
MDI + stub	connection (inductance, capacitance, resistance)	George Z	Chris Diminico
upper layer support	TSSI	George Z	Peter Jones
Control layer	LLDP infrastructure	George Z	Jason Potterf, Peter Jones
Control layer	EEE signaling	George Z	George Zimmerman
PHY enhancements	Reach extension / validation, interacts with mixing segment spec (dependent)	George Z	
PHY enhancements	Backwards compatible noise immunity (e.g., FEC)	George Z	Gergely Huszak
PHY enhancements	Sleep/standby/EEE?	George Z	George Zimmerman
upper layer support	Additional requirements for TSN support? (supporting 1588)	Geoff T	Peter Jones
Power	Coupling Network definition	Task Force	Chris Diminico
Power & Data	Hot insertion, removal and ramifications	Geoff T	? , Jason Potterf
Mixing Segment	Failure modes and preferred behavior	Matthias W	Gergely Huszak, George Zimmerman
Mixing segment	Mixing Segment data membership & PLCA ID	Peter Jones	Peter Jones, Piergiorgio Beruto, Kamal Dalmia
General	Definitions section	Peter Jones	None Needed
~~Mixing Segment~~	~~Spur length~~	~~Masood S~~	~~Diminico~~
~~Control layer~~	~~PLCA ID setup~~ (covered already)	~~George Z~~	-

Future Meetings

- See: http://www.ieee802.org/3/interims/index.html

- Interim series meetings
  - Every other Wednesday
  - 1/13, 1/27, 2/10, 2/24
- January 2021 Interim
  - Teleconference
  - Weeks of Jan 18 and 25, 2021

802.3 Call and Meeting Calendar:
http://www.ieee802.org/3/calendar.html

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

Thank You!