

# Agenda and General Information

IEEE P802.3cs Task Force:  
Increased-reach Ethernet optical subscriber access  
(Super-PON)

Claudio DeSanti  
Google

Vienna, Austria – July 17, 2019

# Agenda

---

- Welcome and Introductions
- Approve Agenda
- Approve past meeting 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
- Review of Action Items
- Comment resolution
- Presentations
- 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 2019 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 2019 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

# Motion #1

---

- Move to approve the agenda
- M: Vince Ferretti – S: Phong Pham
- > 50%  
Carries by voice without opposition

# Motion #2

---

- Move to approve the minutes of the past meetings
  - May 21, 2019  
[http://www.ieee802.org/3/cs/public/201905/20190521-Minutes\\_P802d3cs\\_Salt\\_Lake.pdf](http://www.ieee802.org/3/cs/public/201905/20190521-Minutes_P802d3cs_Salt_Lake.pdf)
  - June 20, 2019  
<http://www.ieee802.org/3/cs/public/AdHoc/20190620-Minutes.pdf>
- M: Duane Remein – S: James Young
- > 50%  
Carries by voice without opposition

# Goals for the meeting

---

- Review presentations
- Identify potential baseline proposals
- Lay the ground work for the next meeting

# Big ticket items

---

- Black Link specification method
  - Link budget
  - Link loss
  - ODN constraints
  - PCS options
- 
- Lay the ground work for the next meeting

# Reflector and Web

---

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

[ListServ@ieee.org](mailto:ListServ@ieee.org)

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

*subscribe* **STDS-802-3-SUPER-PON** *<yourfirstname> <yourlastname>*  
*end*

- Send P802.3cs reflector messages to:

[STDS-802-3-SUPER-PON@listserv.ieee.org](mailto:STDS-802-3-SUPER-PON@listserv.ieee.org)

- Task Force web page URL:

<http://www.ieee802.org/3/cs/index.html>

# Task Force Private Area

---

- URL: <http://www.ieee802.org/3/cs/private/index.html>
  - Username: 802.3cs
  - Password: <<xxxxxxx>>
- 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

---

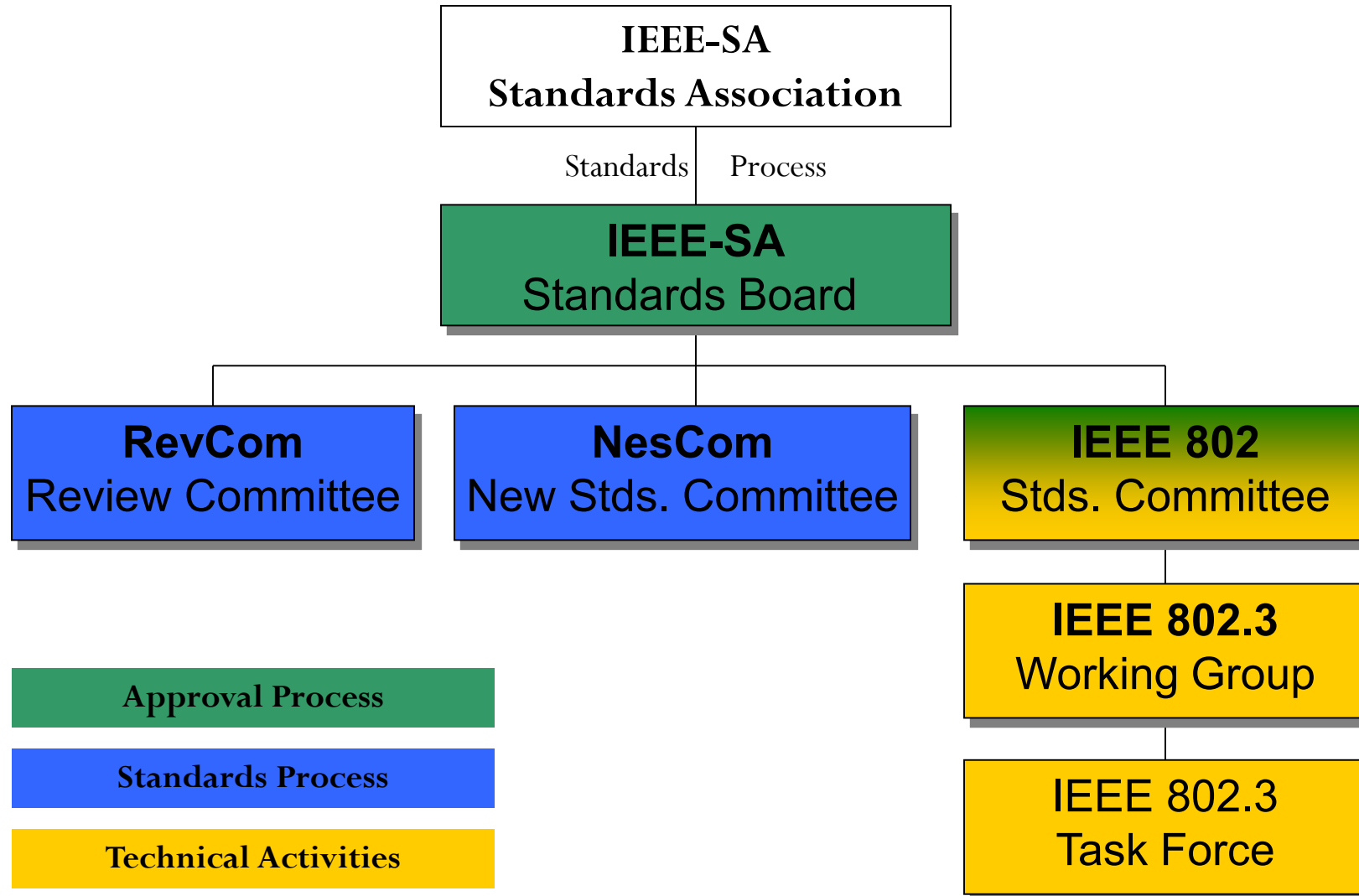
- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency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

# Attendance

---

- Tutorial Material on attendance tool
  - [http://ieee802.org/3/minutes/attendance\\_procedures.pdf](http://ieee802.org/3/minutes/attendance_procedures.pdf)
- Access details
  - URL: <http://imat.ieee.org/>
  - (For interim) Password will be provided

# IEEE Structure



# Important Bylaws and Rules

---

- **IEEE-SA Operations Manual**  
[http://standards.ieee.org/develop/policies/sa\\_opman/](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](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](mailto:patcom@ieee.org)**

# Participation in IEEE 802 Meetings

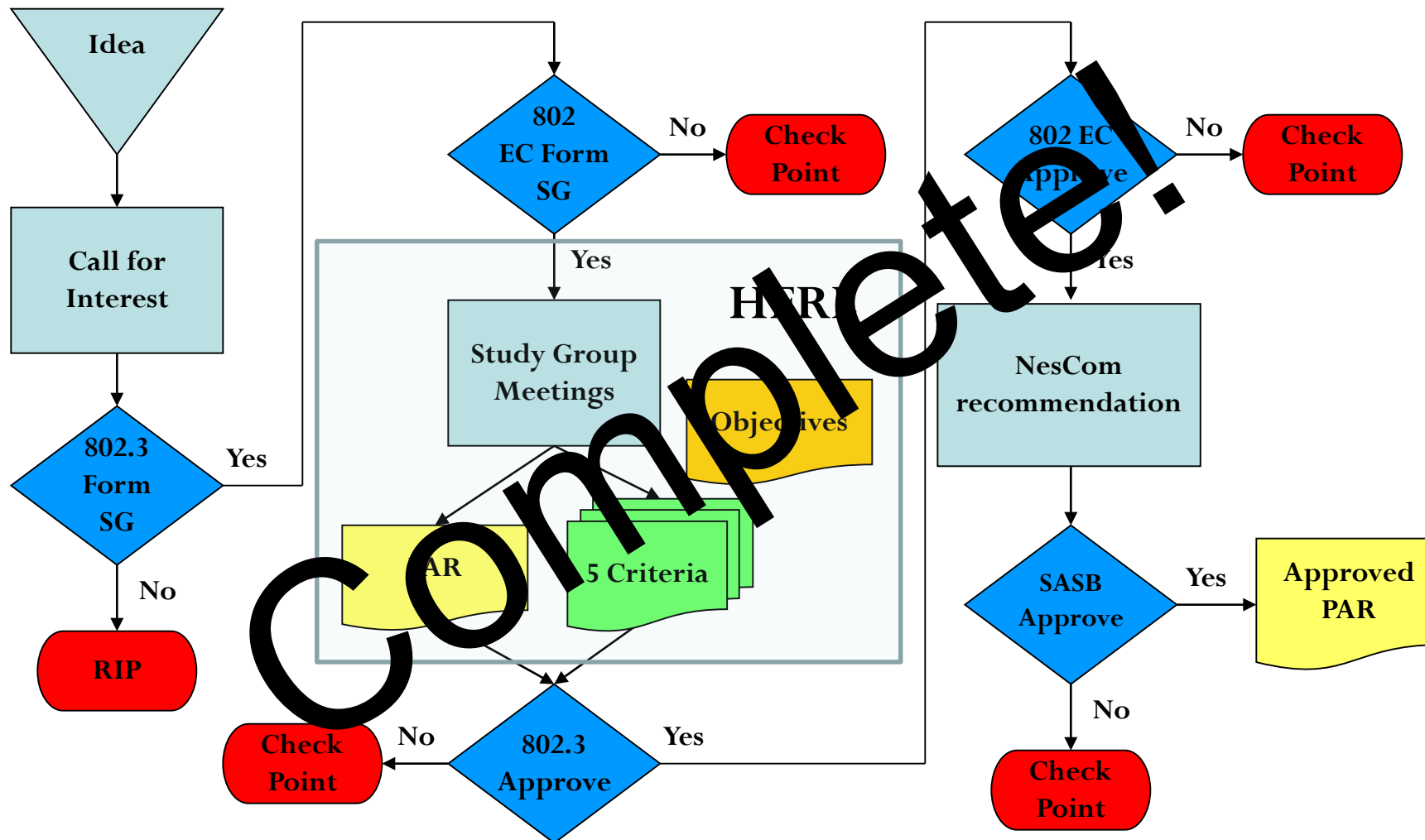
**Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis**

- **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](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](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.**

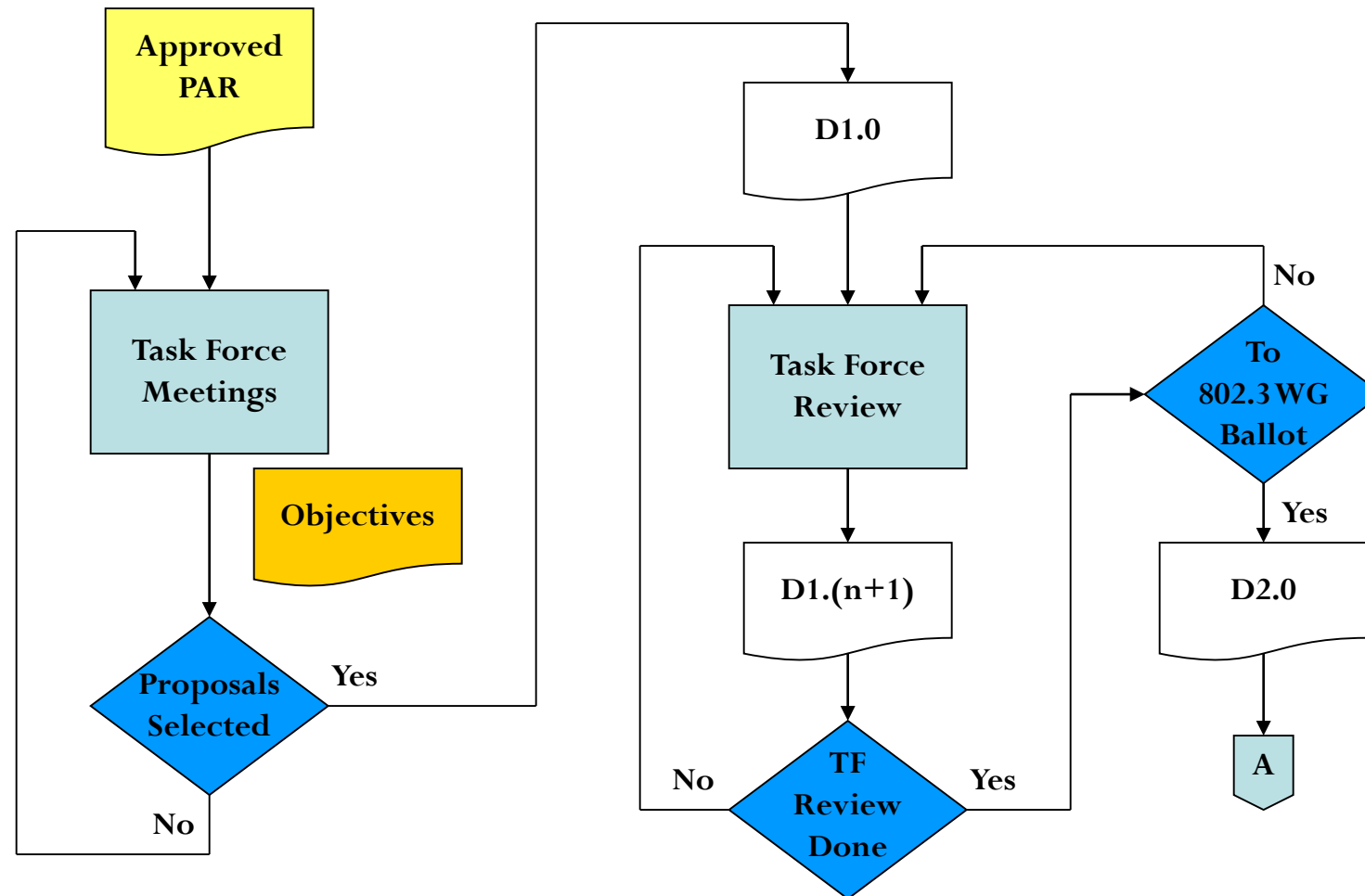
(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

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

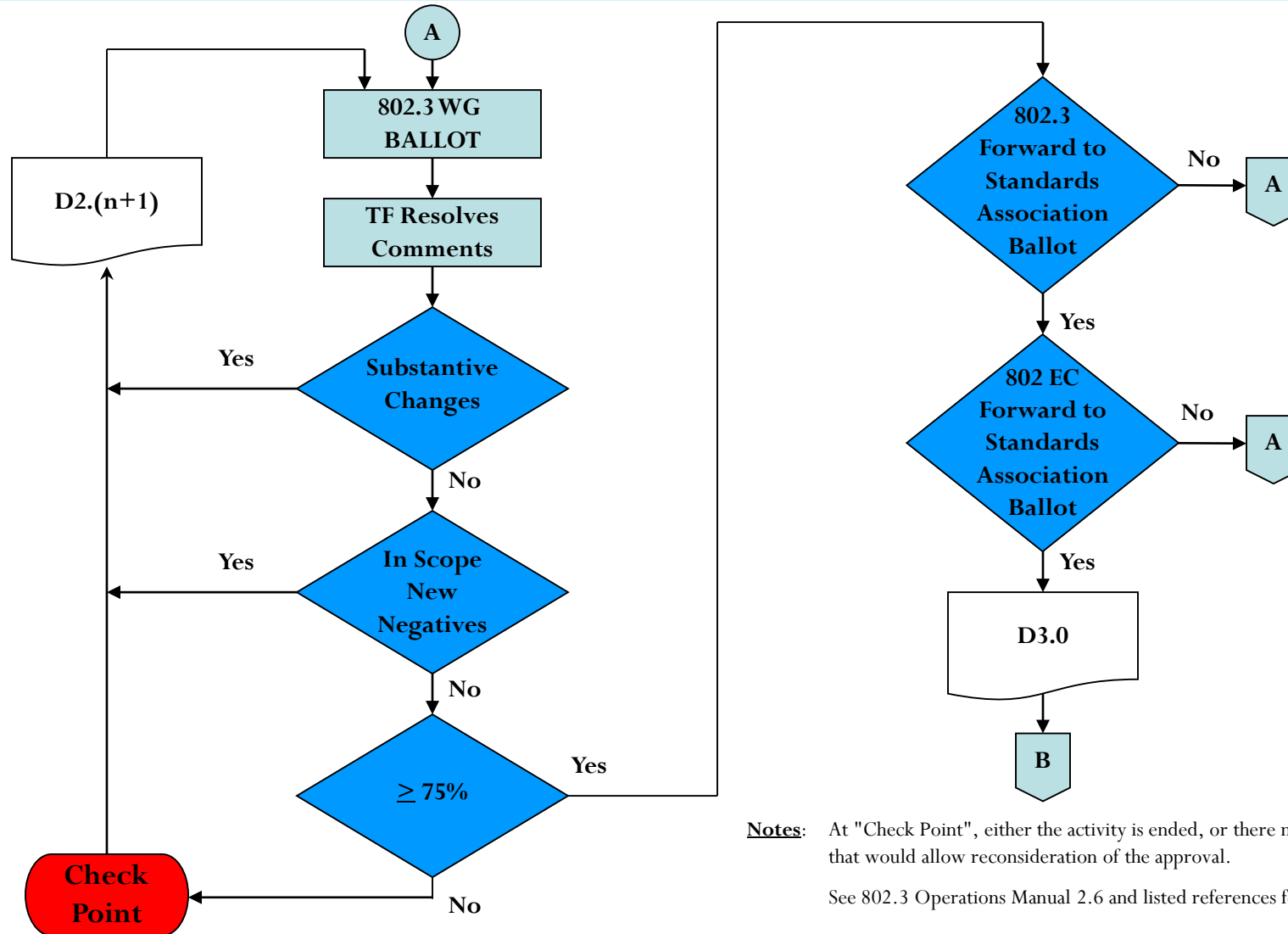


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



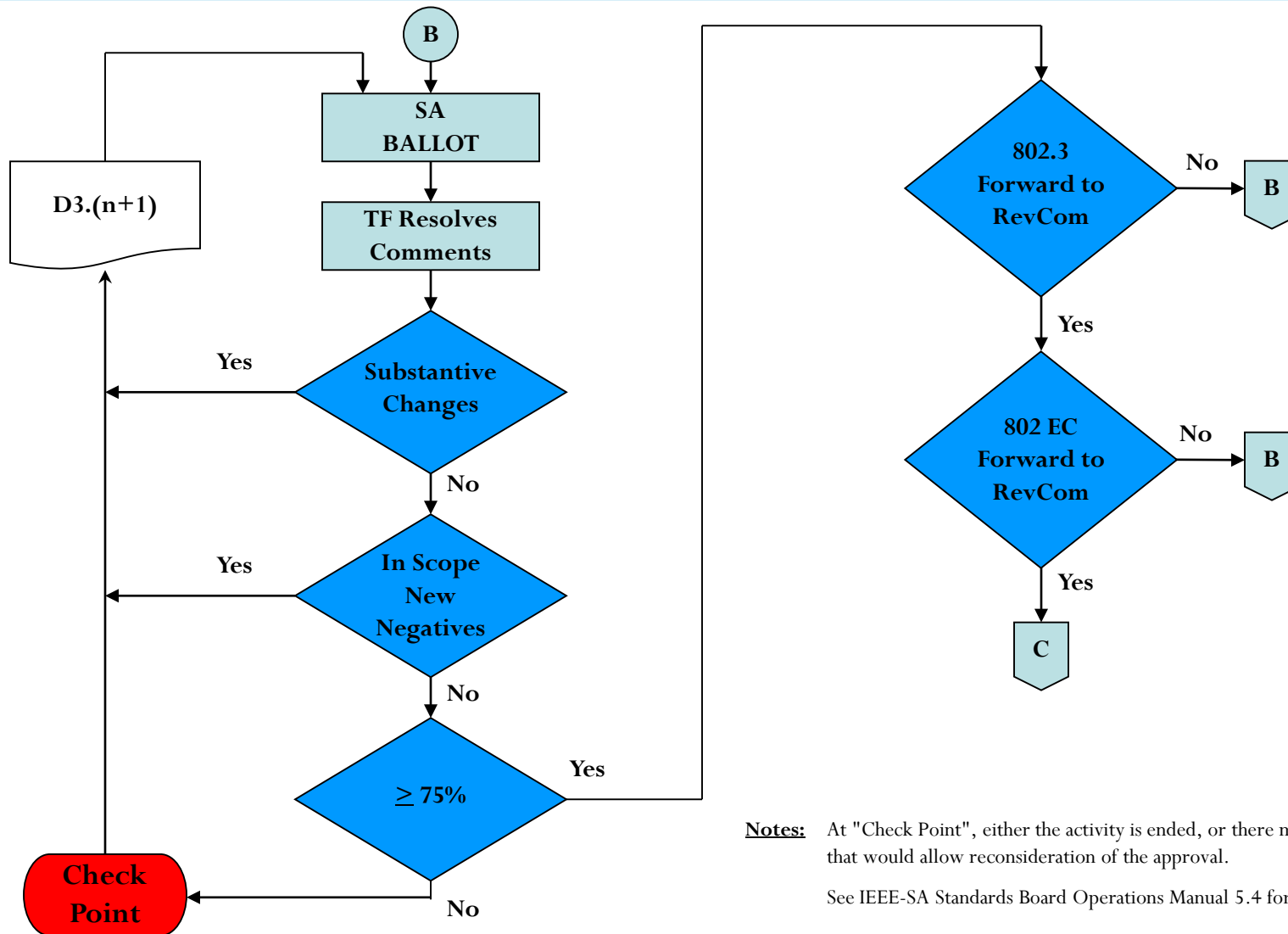
# Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



**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

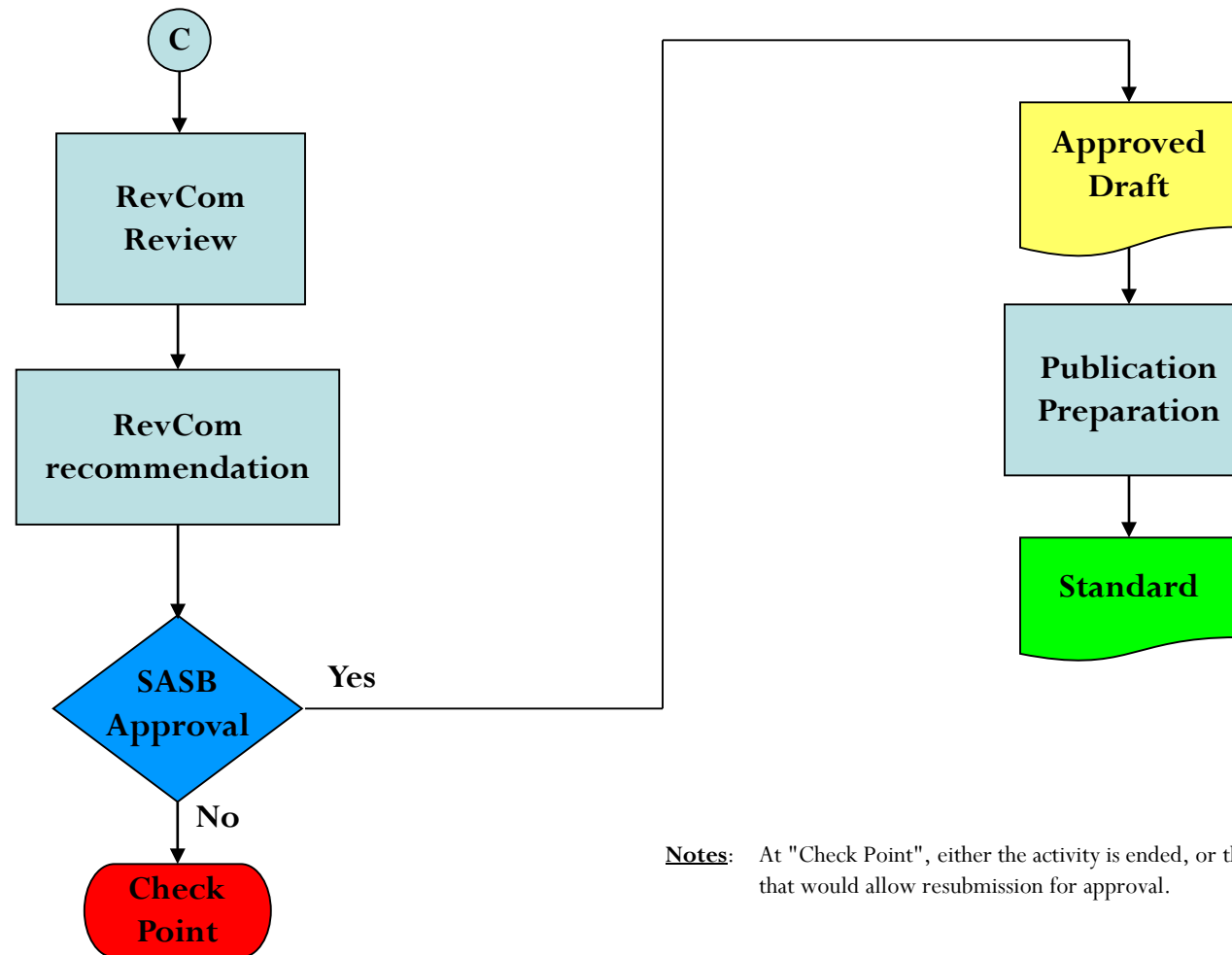
# Overview of IEEE 802.3 Standards Process (4/5)- IEEE Standards Association (SA) Ballot Phase



**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.

# Liaisons and Communications

---

- Should we establish a liaison with ITU-T Q2/SG15 about the G.9807.3 project?
  - The group feels it would be a good idea

# Action Items

---

- none

# IEEE P802.3cs Super-PON

## Approved Project Documents

---

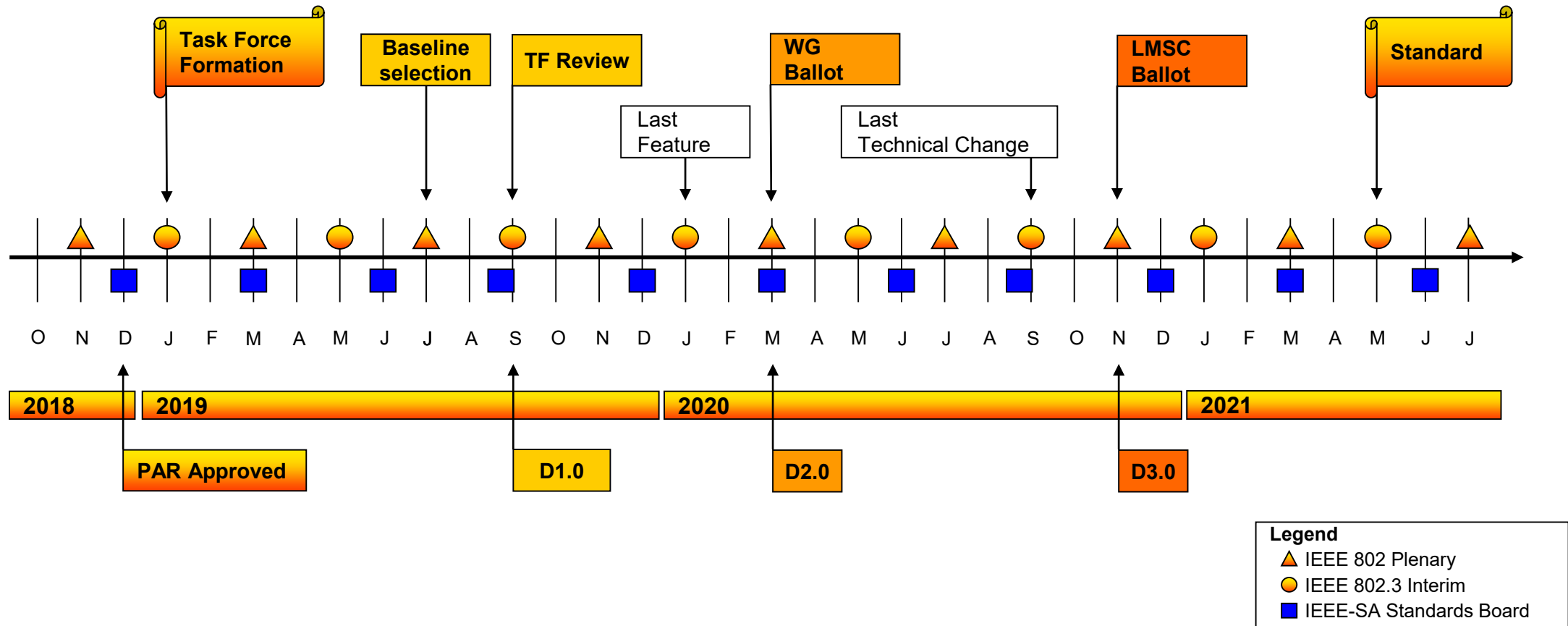
- PAR
  - [http://www.ieee802.org/3/cs/P802\\_3cs\\_PAR.pdf](http://www.ieee802.org/3/cs/P802_3cs_PAR.pdf)
- 5 Criteria
  - <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0246-00-ACSD-p802-3cs.pdf>
- Objectives
  - [http://www.ieee802.org/3/cs/Super-PON\\_Objectives.pdf](http://www.ieee802.org/3/cs/Super-PON_Objectives.pdf)

# IEEE P802.3cs Super-PON Objectives

---

- Provide Physical Layer specifications that:
  - Preserve the Ethernet frame format utilizing the Ethernet MAC
  - Support a BER of better than or equal to  $10^{-12}$  at the MAC/PLS service interface (or the frame loss ratio equivalent)
  - Support a passive point-to-multipoint ODN with a reach of at least 50 km with at least 1:64 split ratio per wavelength pair
  - Support at least 16 wavelength pairs for point-to-multipoint PON operation
  - Support the MAC data rate of 10Gb/s downstream
  - Support the MAC data rates of 2.5Gb/s and 10Gb/s upstream
  - Leverage existing EPON PCS and PMA to support the above MAC data rates
  - Support tunable transmitters

# IEEE P802.3cs Super-PON Adopted Timeline



# Presentations (1)

---

- EDFAs and WDM Operation
  - Earl Parsons (CommScope), Xiangjun Zhao (Google), Liang Du (Google)
- P802.3cs Black Link Parameters
  - Claudio DeSanti (Google), Liang Du (Google)
- Super-PON Updated Black Link Parameters
  - Claudio DeSanti (Google)
- Considerations for Link Loss
  - Vince Ferretti (Corning)
- Low loss CAWG design for Super-PON systems
  - Henk Bulthuis (Broadex Technologies)
- Super-PON Link Budget Analysis
  - Liang Du (Google)
- Super-PON PCS Options
  - Claudio DeSanti (Google)

# Presentations (2)

---

- Draft 0.1
  - Task Force
- Comments Received
  - Task Force
- Proposed Responses
  - Task Force

# Motion #3

---

- Move to accept 20190717-Updated\_Link\_Parameters\_v1.pdf for inclusion in the next version of the P802.3cs draft
- M: Liang Du – S: Vince Ferretti
- $\geq 75\%$
- Y: 7, N: 0, A: 4

Motion carries

# Motion #4

---

- Move to instruct the editor to generate P802.3 draft 0.2, using draft 0.1 as baseline and incorporating all accepted material
- M: Marek Hajduczenia – S: Duane Remein
- $\geq 75\%$
- Y: 9, N: 0, A: 2

Motion carries

# Next Meeting

---

- September interim meeting
- Interim teleconference on August
  - Propose August 22 @ 10:30am PDT

# Future Meetings

---

- See: <http://www.ieee802.org/3/interims/index.html>
- *September 2019 Interim*
  - Indianapolis, IN
  - Week of September 9
  - Plan to attend: Y: 6 N: 0 M: 2
- *November 2019 Plenary*
  - Waikoloa Village, HI
  - November 11 to 14
  - Plan to attend: Y: 9 N: 1 M: 1
- Anyone interested in hosting a interim meeting contact me or the IEEE 802.3 Executive Secretary [Steve Carlson](#).

# Motion #5

---

- Move to adjourn
- M: Mark Laubach – S: Marek Hajduczenia
- > 50%  
Carries by voice without opposition

---

# Thank You!

# Recorded Attendance

---

- Arkin Aydin, Nokia
- Bill Powell, Nokia
- Claudio DeSanti, Google
- Daisuke Ogawa, NEL
- Dekun Liu, Huawei
- Duane Remain, Futurewei
- Earl Parsons, CommScope
- Edward Walter, AT&T
- Erick Pelletier, Teraxion
- Glen Kramer, Broadcom
- Han Hyub Lee, ETRI
- James Young, CommScope
- Liang Du, Google
- Marek Hajduczenia, Charter
- Mark Laubach, Broadcom
- Phong Pham, US Conec
- Vince Ferretti, Corning