

Agenda and General Information

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

Claudio DeSanti
Google
Vancouver, BC – March 12, 2019

Agenda

- Welcome and Introductions
- Approve Agenda
- Approve past meetings 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
- 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. (June 2018 IEEE-SA Standards Board Ops Manual 5.3.3.2)
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (June 2018 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: Kevin Noll - S: Duane Remein
- > 50%
 - Carries by voice without opposition

Motion #2

- Move to approve the minutes of the past meeting
 - January 15, 2019
http://www.ieee802.org/3/cs/public/201901/Draft_Minutes_P802d3cs_0119_Long_Beach.pdf
 - February 21, 2019
<http://www.ieee802.org/3/cs/public/AdHoc/20190221-Minutes.pdf>
- M: Marek Hajduczenia - S: Duane Remein
- > 50%
 - Carries by voice without opposition

Goals for the meeting

- Review presentations
- Understand technology difficulties
- Explore architectural options
- Lay the ground work for the next meeting

Big ticket items

- Specification method
 - Wavelength plan
 - Wavelength routing
 - 50 km chromatic dispersion
-
- 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

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

- Task Force web page URL:

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

Task Force Private Area

- We don't have it yet...

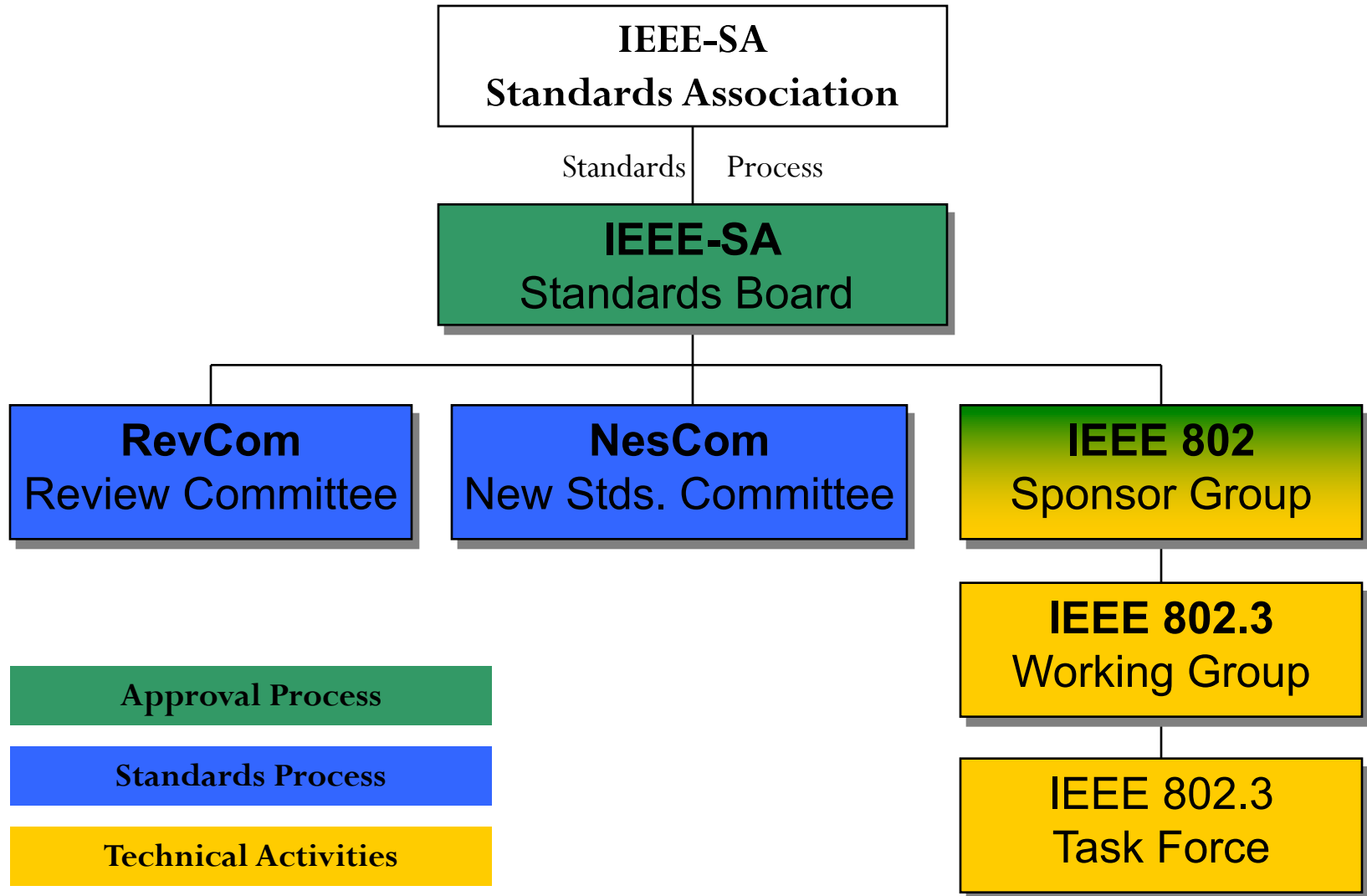
Ground Rules

- 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/>
 - (For interim) Password will be provided

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**

Participation in IEEE 802 Meetings

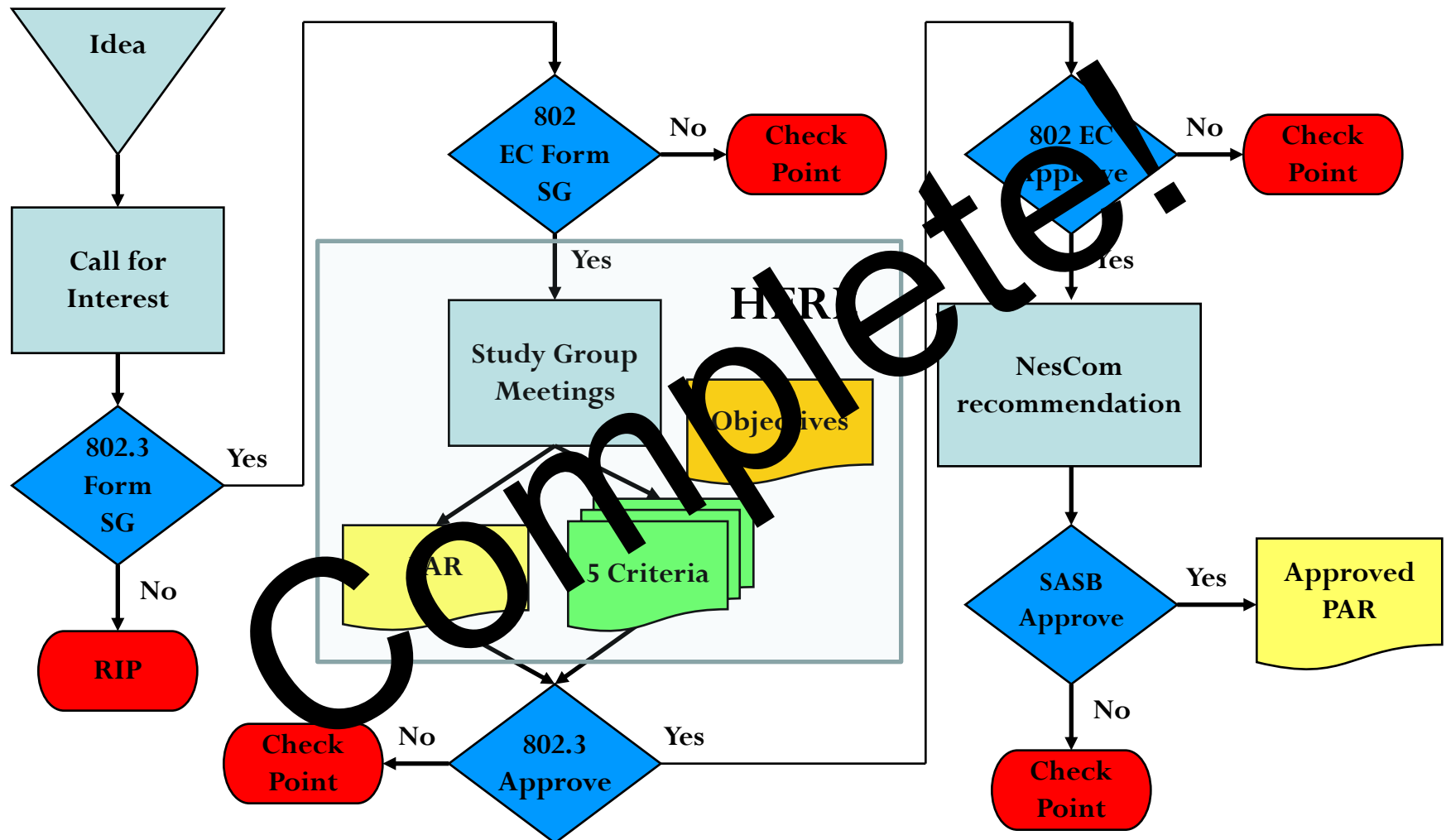
Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis

- **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.

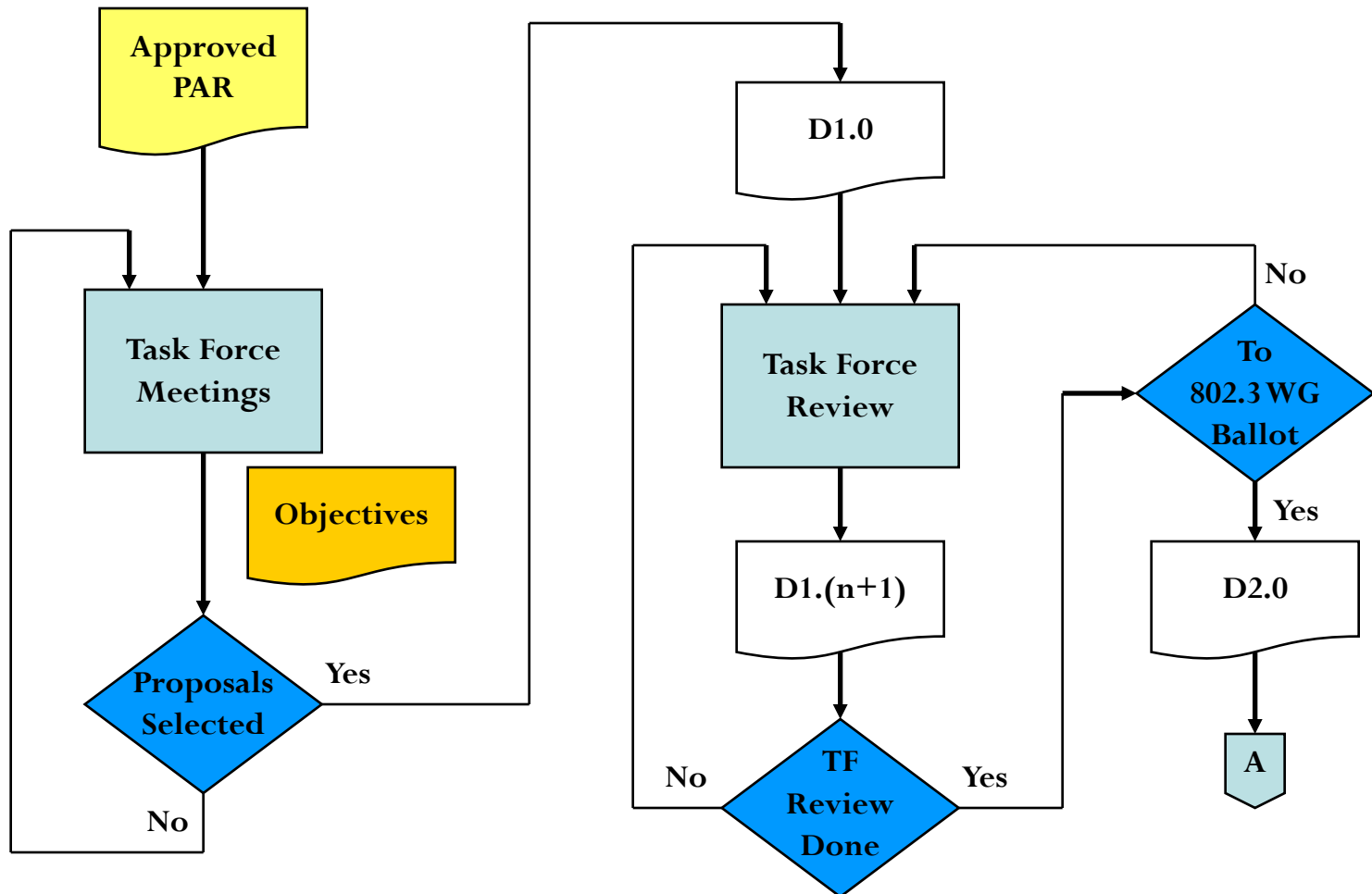
(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

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

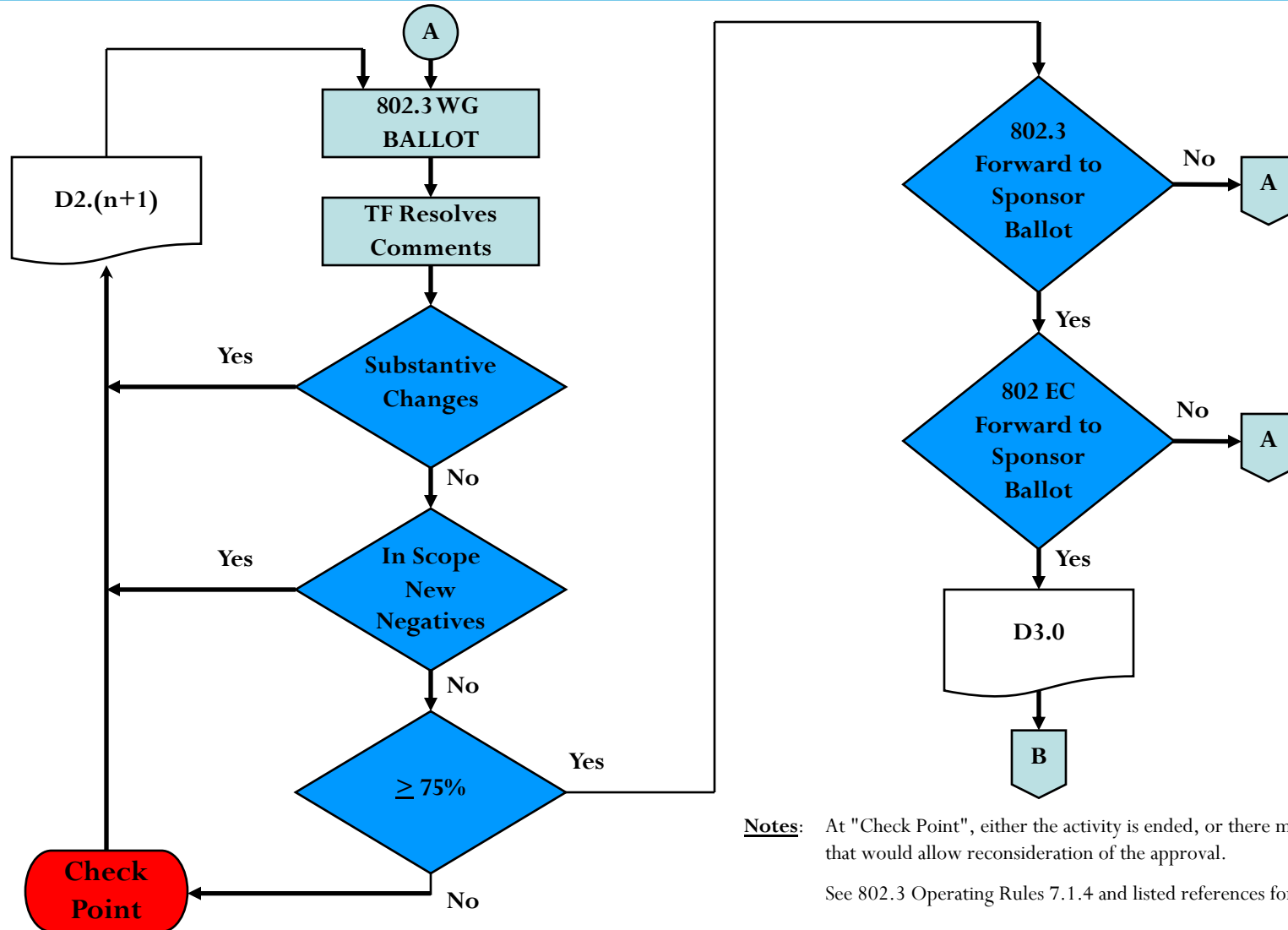


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



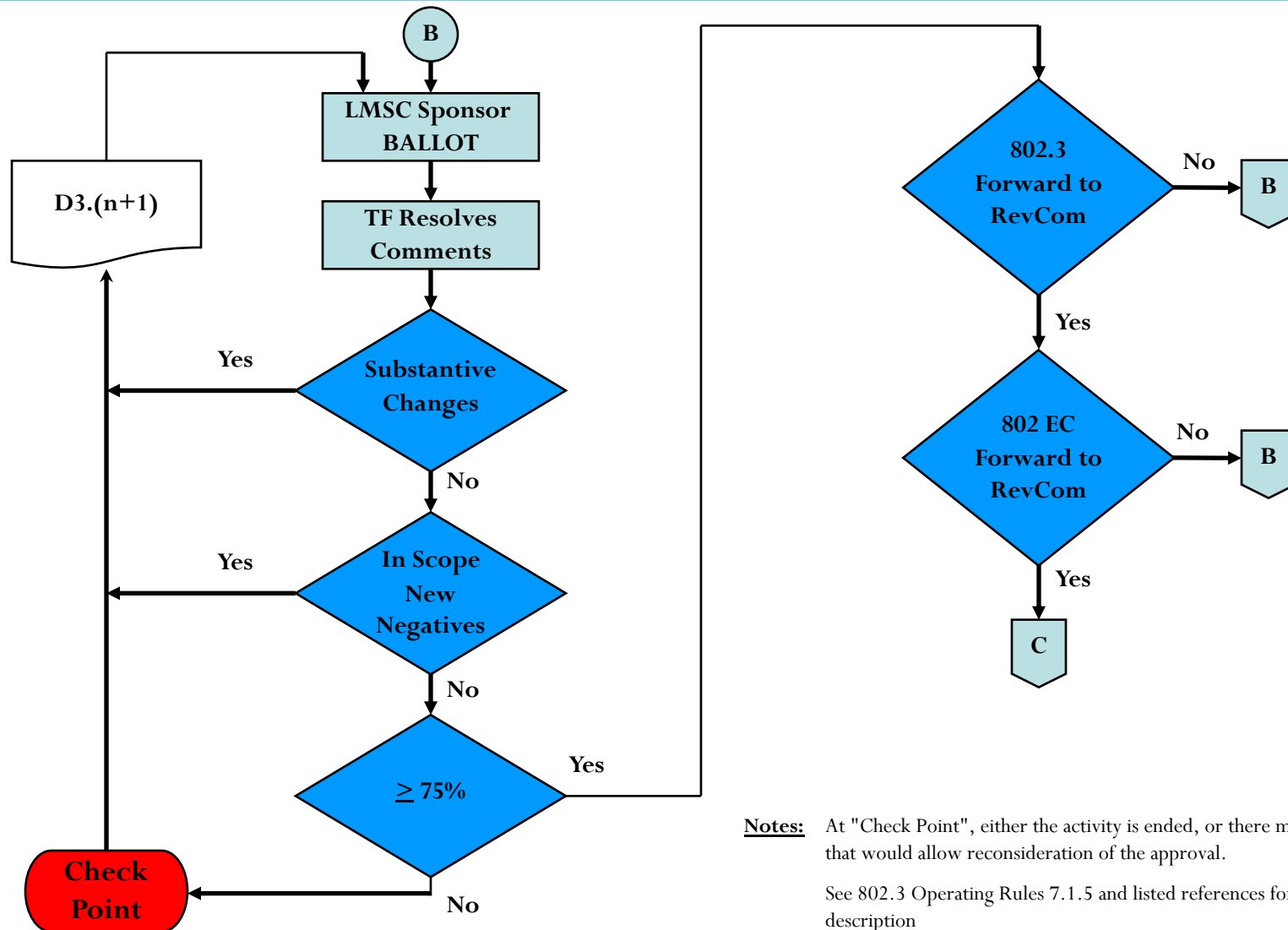
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

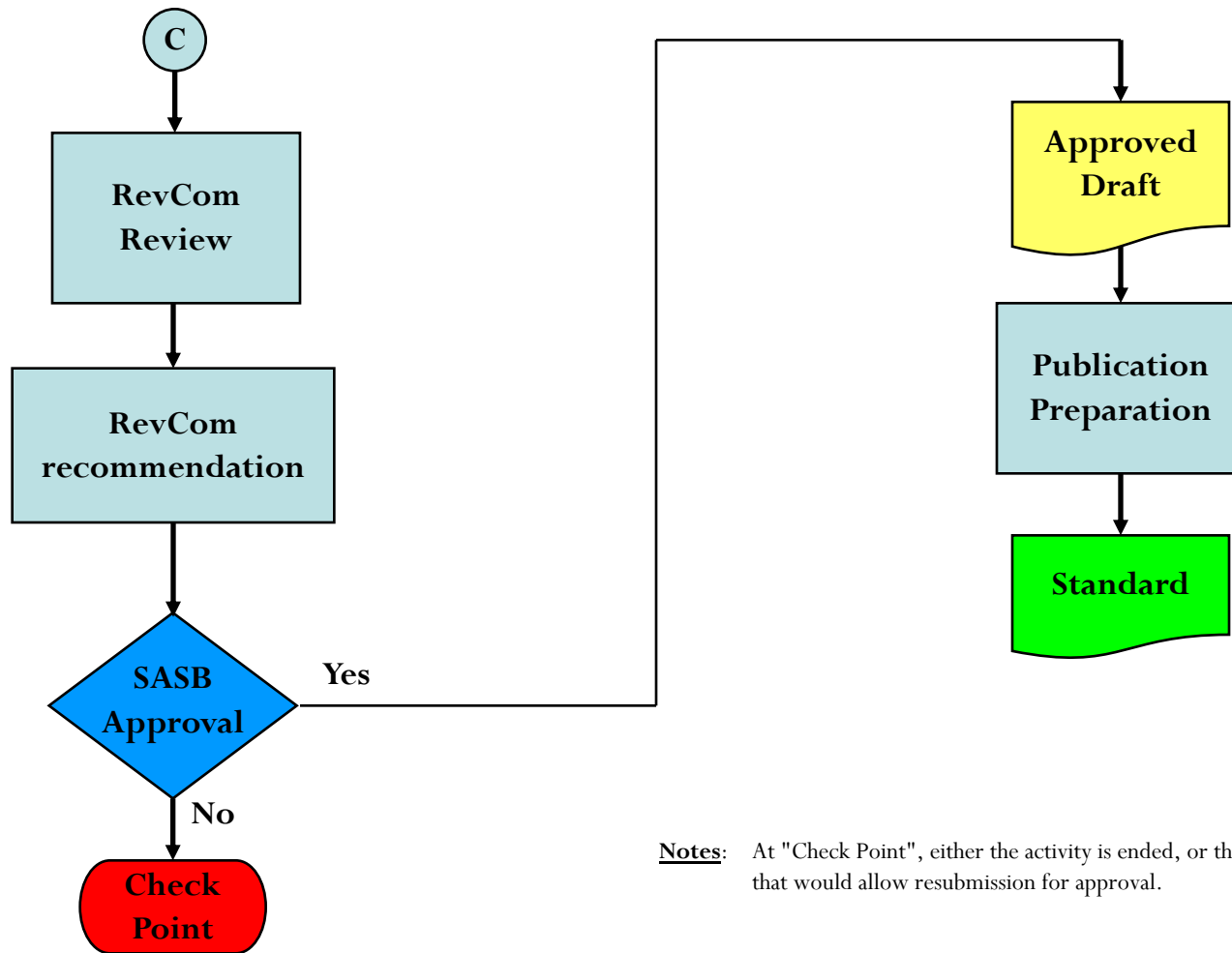
Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



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 resubmission for approval.

Liaisons and Communications

- none

Action Items

- none

IEEE P802.3cs Super-PON

Approved Project Documents

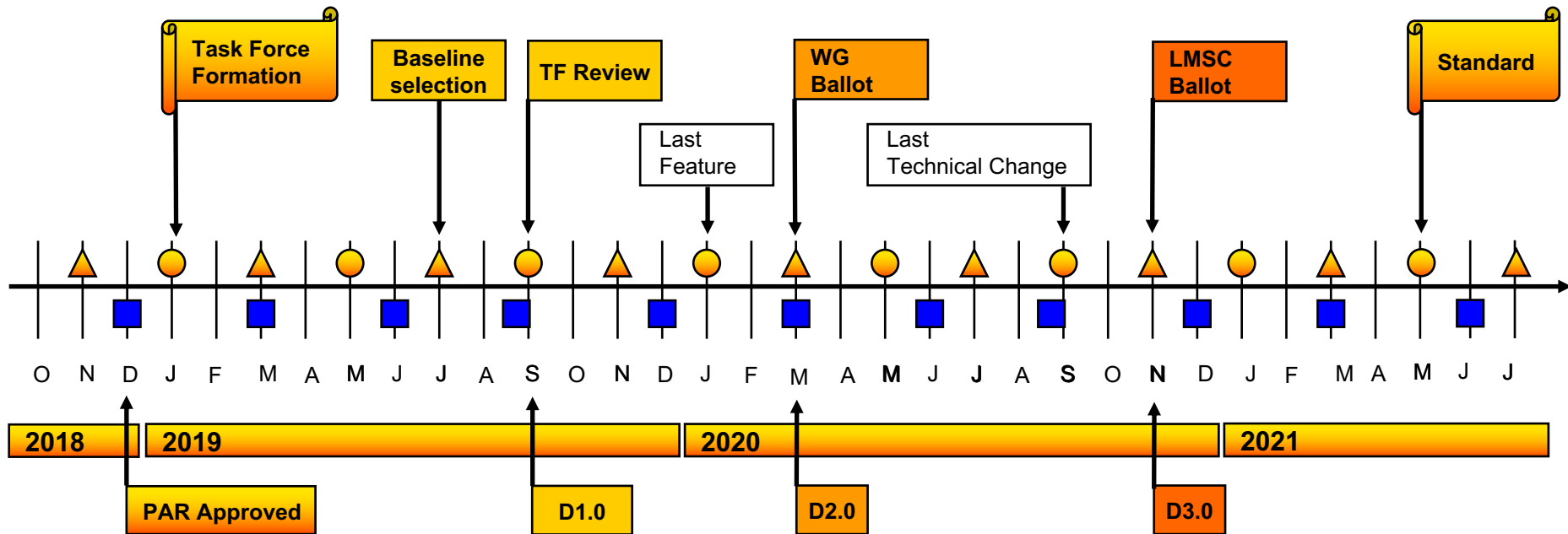
- PAR
 - http://www.ieee802.org/3/cs/P802_3cs_PAR.pdf
- 5 Criteria
 - <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0246-00-ACSD-p802-3cs.pdf>
- Objectives
 - http://www.ieee802.org/3/cs/Super-PON_Objectives.pdf

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

Thoughts on Timeline



Legend	
▲	IEEE 802 Plenary
●	IEEE 802.3 Interim
■	IEEE-SA Standards Board

Presentations

- Specifying Super-PON
 - Claudio DeSanti (Google)
- Super-PON Wavelength Considerations
 - Liang Du (Google)
- Cyclic Athermal AWG λ Router for Super-PON
 - Daisuke Ogawa (NTT Electronics)
- Cyclical AWG for Super-PON System
 - Dr. Junming An (Shijia Photons Technology)
- Super-PON Chromatic Dispersion Considerations
 - Liang Du (Google)

Motion #3

- Move to adopt the timeline shown in page 29 of 20190312-Agenda_v1.pdf
- M: Marek Hajduczenia - S: Duane Remein
- $\geq 75\%$
- Y: 12, N: 0, A: 0
 - Motion passes

Motion #4

- Move that the Super-PON specification will use the black link approach, as per 20190312-Specifying_Super-PON.pdf, whereby:
 - The MDI specification is normative and accounts for the characteristics of the black link; and
 - Any black link example(s) are described as informative annexes.
- M: Liang Du - S: Patrick Lebeau
- $\geq 75\%$
- Y: 12, N: 0, A: 0
 - Motion passes

Motion #5

- Move to adopt the wavelength plan shown on page 7 of 20190312-CAWG_Router_for_Super-PON.pdf
- M: Marek Hajduczenia - S: Liang Du
- $\geq 75\%$
- Y: 9, N: 0, A: 1
 - Motion passes

Next Meeting

- May Interim meeting
- Interim teleconference?
 - April 18 or May 2nd

Future Meetings

- See: <http://www.ieee802.org/3/interims/index.html>
- *May 2019 Interim*
 - Salt Lake City, UT
 - Week of May 20
 - Plan to attend: Y: 10 N: 1 M: 1
- *July 2019 Plenary*
 - Vienna, Austria
 - July 15 to 18
 - Plan to attend: Y: 10 N: 0 M: 3
- *September 2019 Interim*
 - Indianapolis, IN
 - Week of September 9
 - Plan to attend: Y: 5 N: 1 M: 4
- Anyone interested in hosting a interim meeting contact me or the IEEE 802.3 Executive Secretary [Steve Carlson](#).

Motion #6

- Move to adjourn
- M: Duane Remein - S: Mark Laubach
- > 50%
- Y: N: A:
 - Carries by voice without opposition

Thank You!