Agenda and General Information

IEEE P802.3cu 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength Task Force

Mark Nowell, Cisco

Kona, Hawaii

Week of Nov 11th, 2019

Agenda

- Welcome and Introductions
- Approve Agenda
- Approve Minutes
- Reflector and Web
- Ground Rules
- IEEE
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Liaisons and Communications
- Ad hocs
- Goals for this meeting
- Meeting Schedule
- Future Meetings
- Motions and Closing Business

P802.3cu Task Force Organization

- Chair: Mark Nowell, Cisco
- Recording Secretary: Kenneth Jackson, Sumitomo
- Chief Editor: Gary Nicholl, Cisco
- Ad hoc chair: ad hoc

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. (December 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 (December 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

Reflector and Web

- To subscribe to the Study Group's reflector, send an email to:

  ListServ@ieee.org

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

  subscribe stds-802-3-100G-OPTX <yourfirstname> <yourlastname>

  end

- Send Study Group reflector messages to:

  stds-802-3-100G-OPTX@listserv.ieee.org

- Task Force's web page URL:

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

Task Force Private Area:

http://www.ieee802.org/3/cu/private/index.html

U: 802.3cu

P: *******

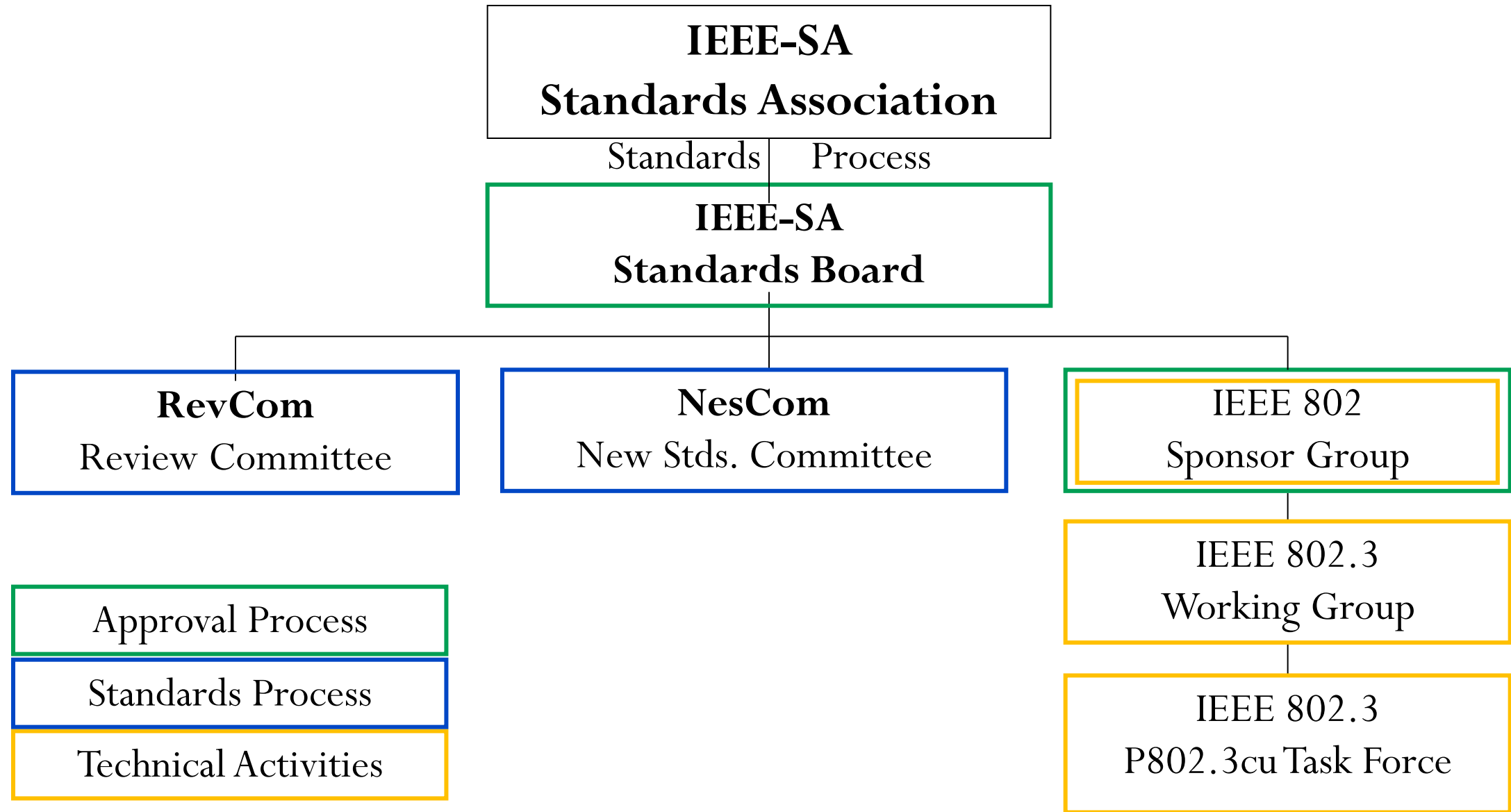(The global 802.3 WG password will always work too)

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/
  - Use your imat login
    - (must be on meeting SSID – no VPN)

IEEE Structure

**IEEE-SA
Standards Association**

Standards | Process

**IEEE-SA
Standards Board**

RevCom
Review Committee

NesCom
New Stds. Committee

IEEE 802
Sponsor Group

Approval Process

Standards Process

Technical Activities

IEEE 802.3
Working Group

IEEE 802.3
P802.3cu Task Force

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

Slide #1

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

<u>Slide #2</u>

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

Slide #3

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
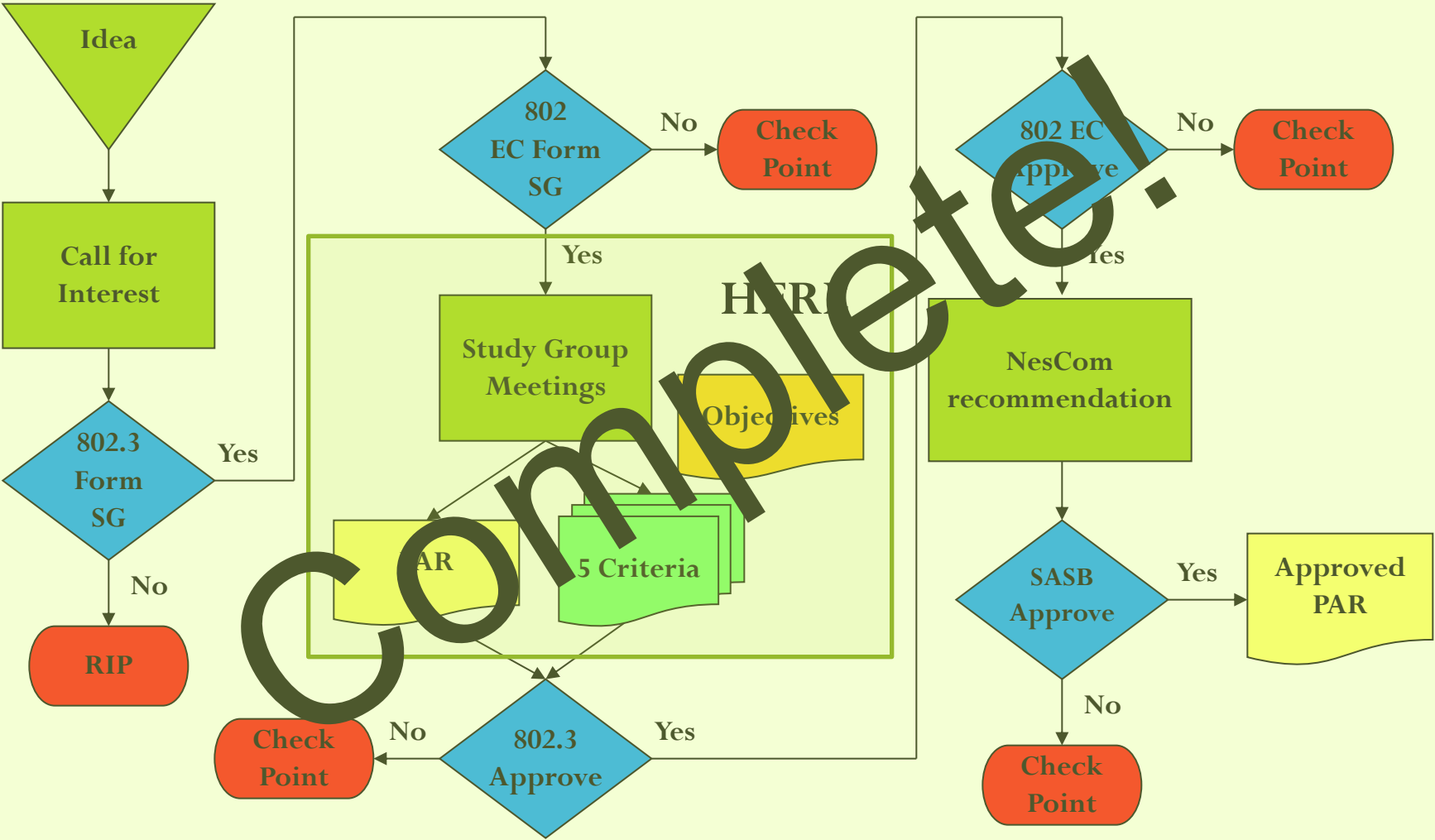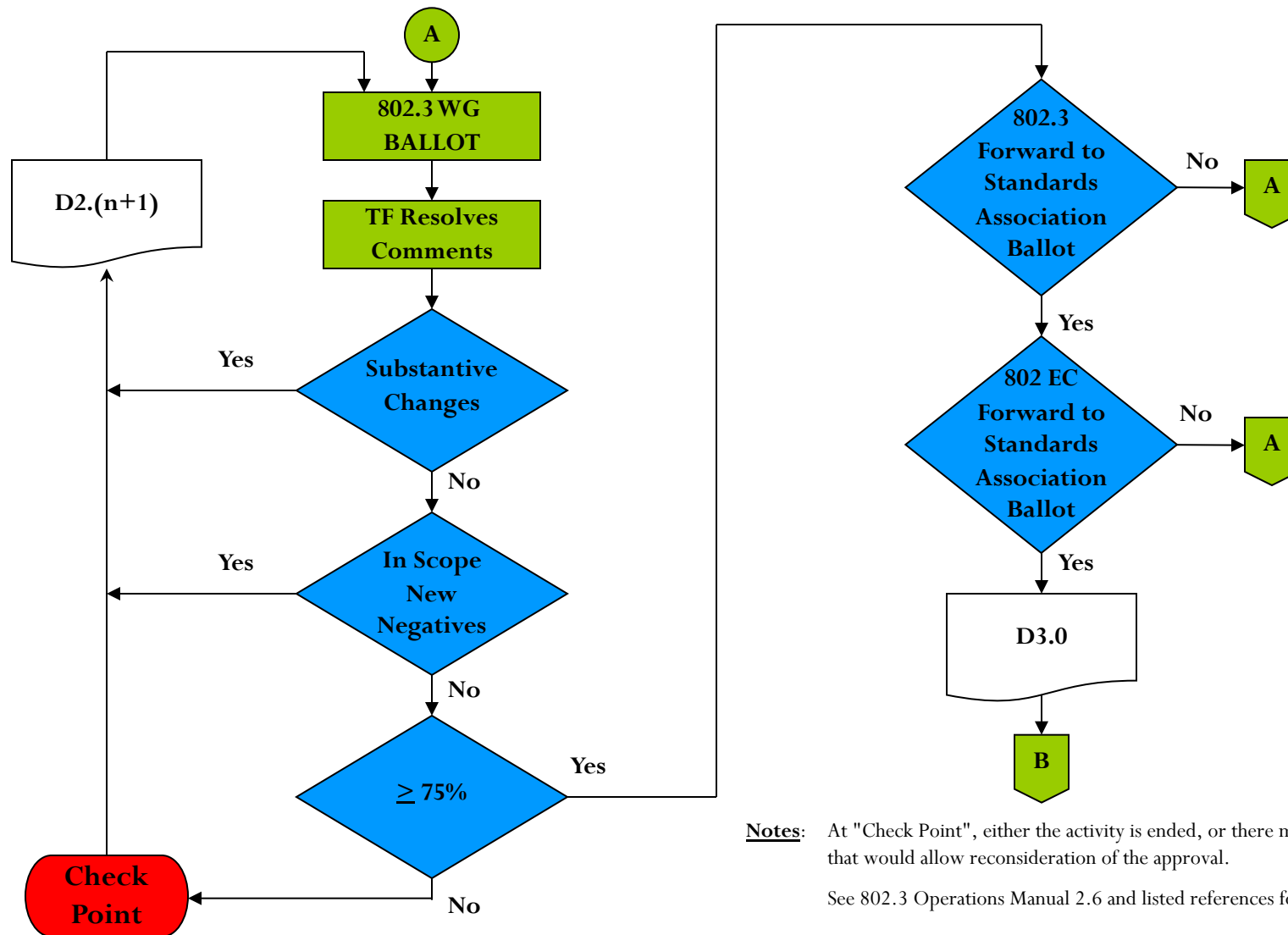
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.
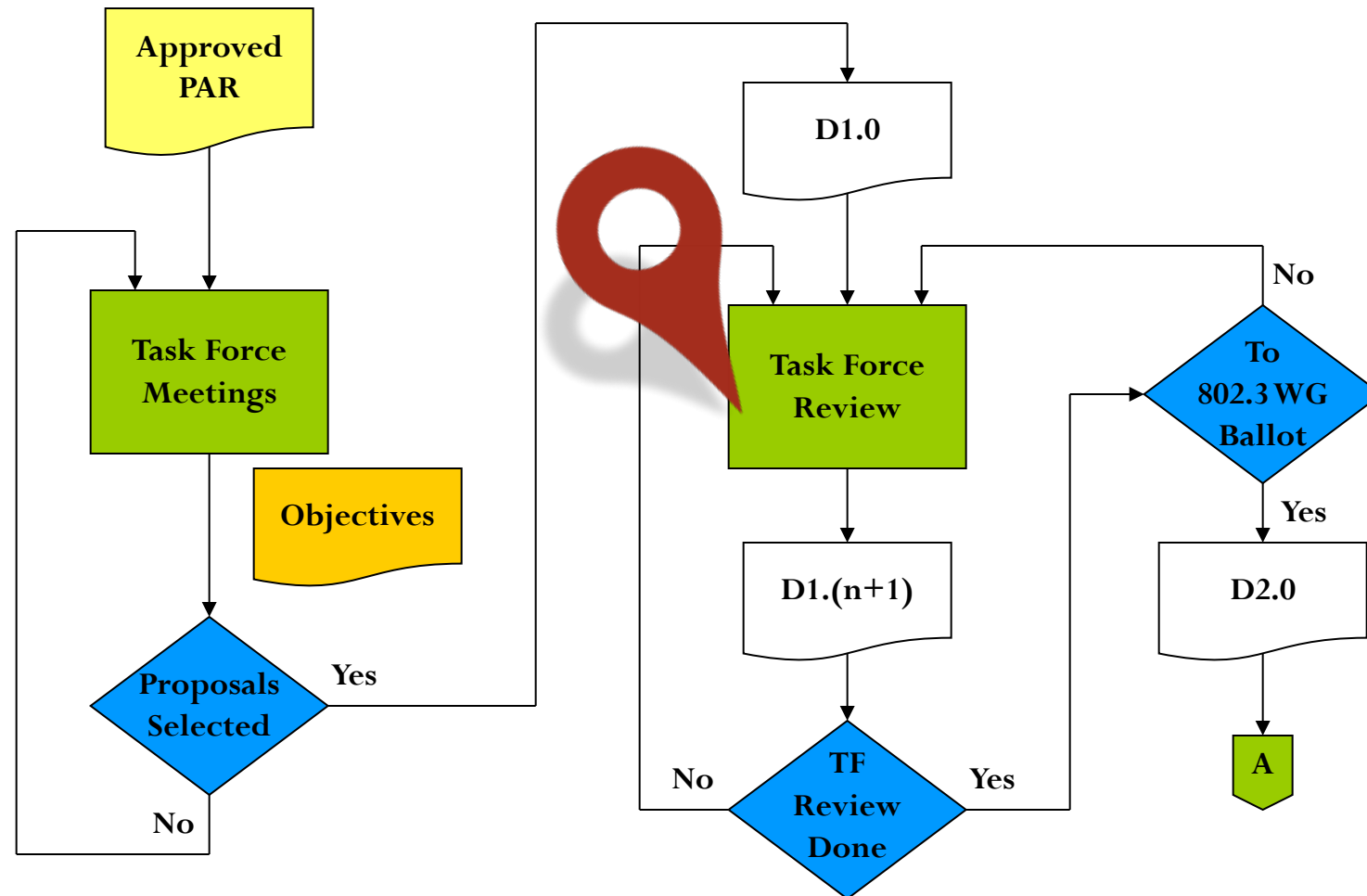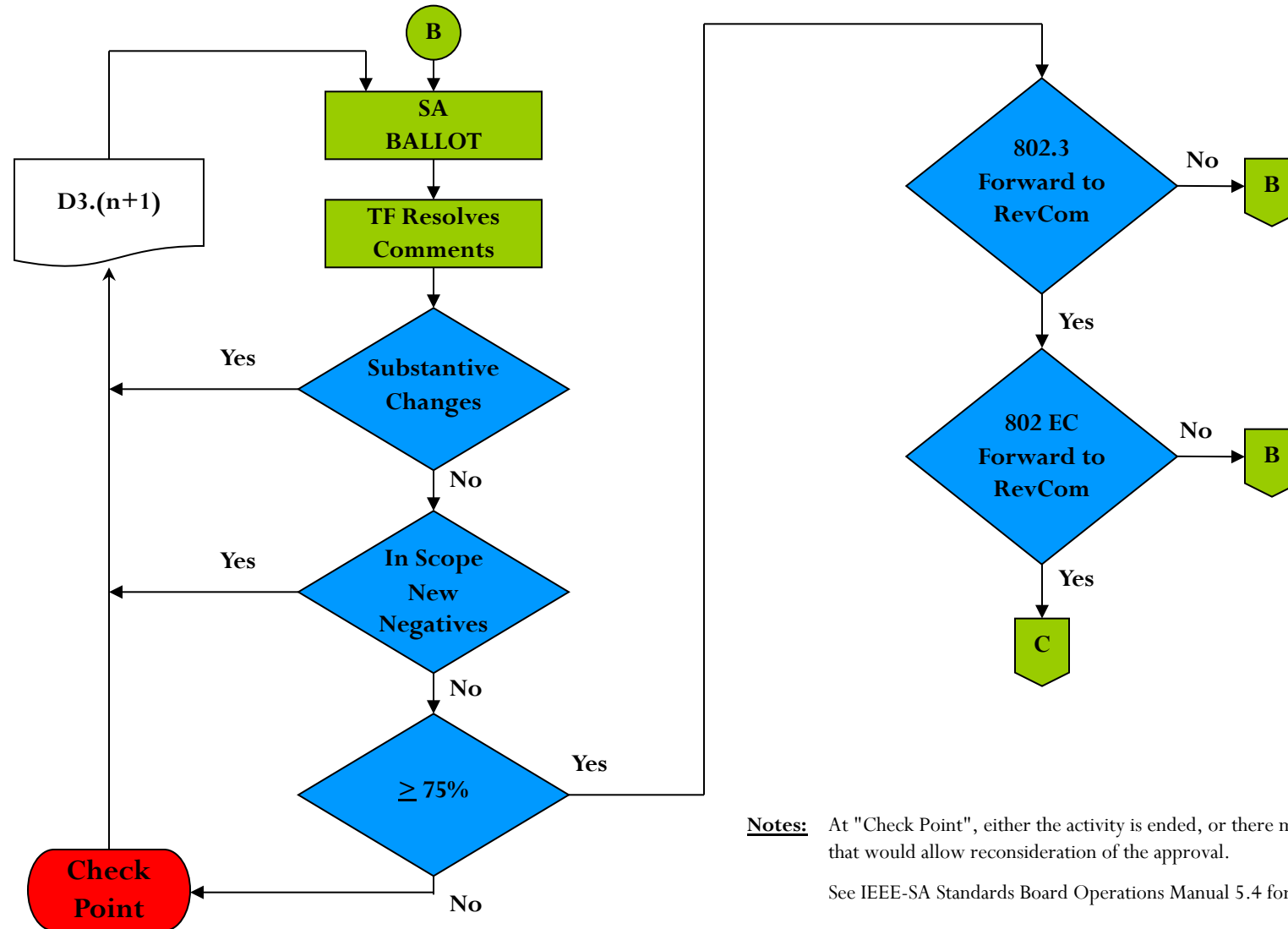
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase

Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.
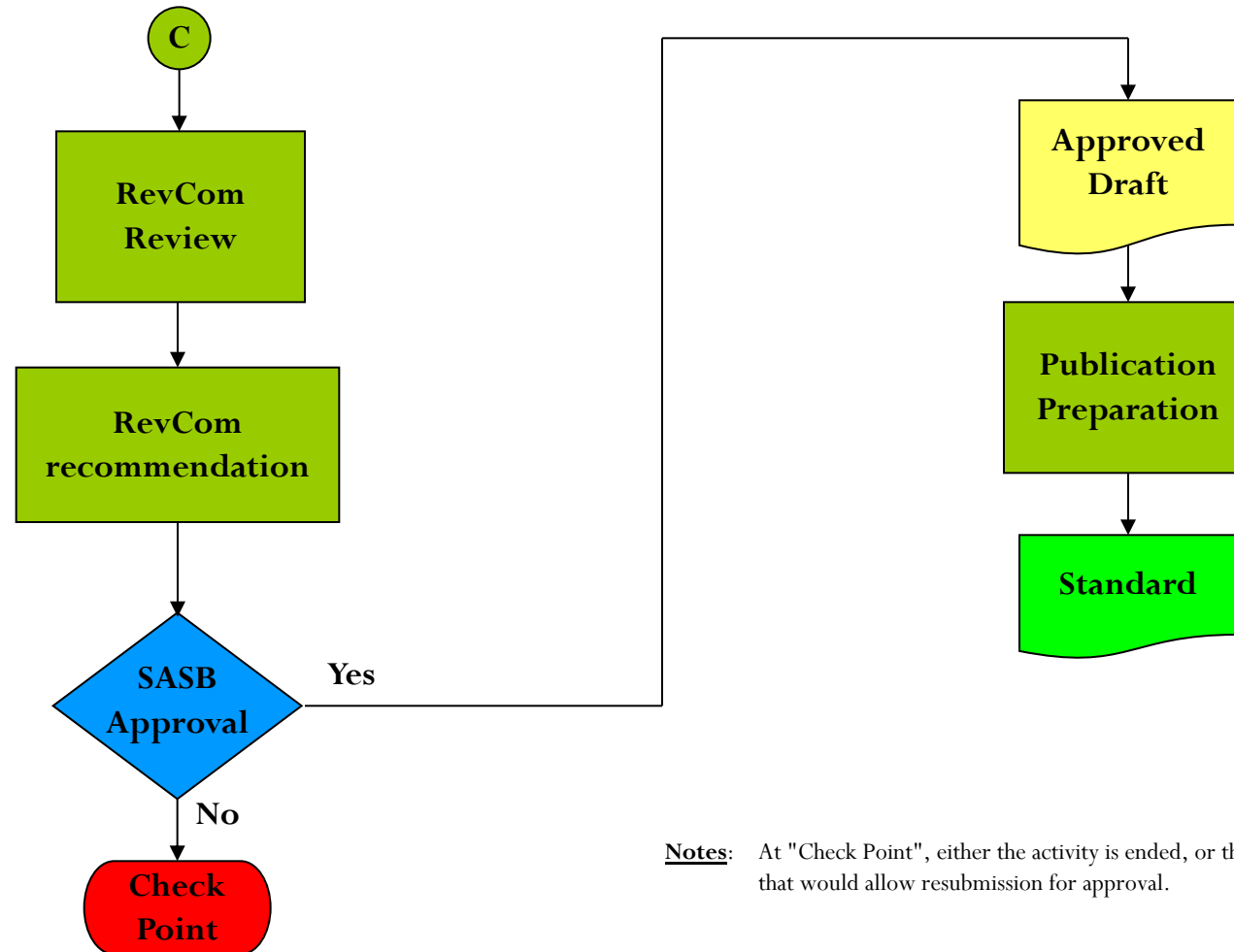
See 802.3 Operations Manual 2.6 and listed references for complete description

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

C

RevCom Review

RevCom recommendation

SASB Approval

Yes

No

Check Point

Approved Draft

Publication Preparation

Standard

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

Liaisons and Communications

Ad hocs

Charter: The charter of the IEEE 802.3cu Ad hoc is to discuss topics and provide contributions towards helping the Task Force with its decisions.

Chair: Mark Nowell (provisional)

http://www.ieee802.org/3/cu/public/cu_adhoc/cu_archive/index.html

Expected to continue the regular cadence.

• Timeslot: Typically Wed @ 8am PT

Note: Going forward we will be looking how we can use ad hoc (or teleconference interims) to accelerate comment resolution as our draft stabilizes.

Ad Hoc Report

3 meetings were held with 5 technical contributions

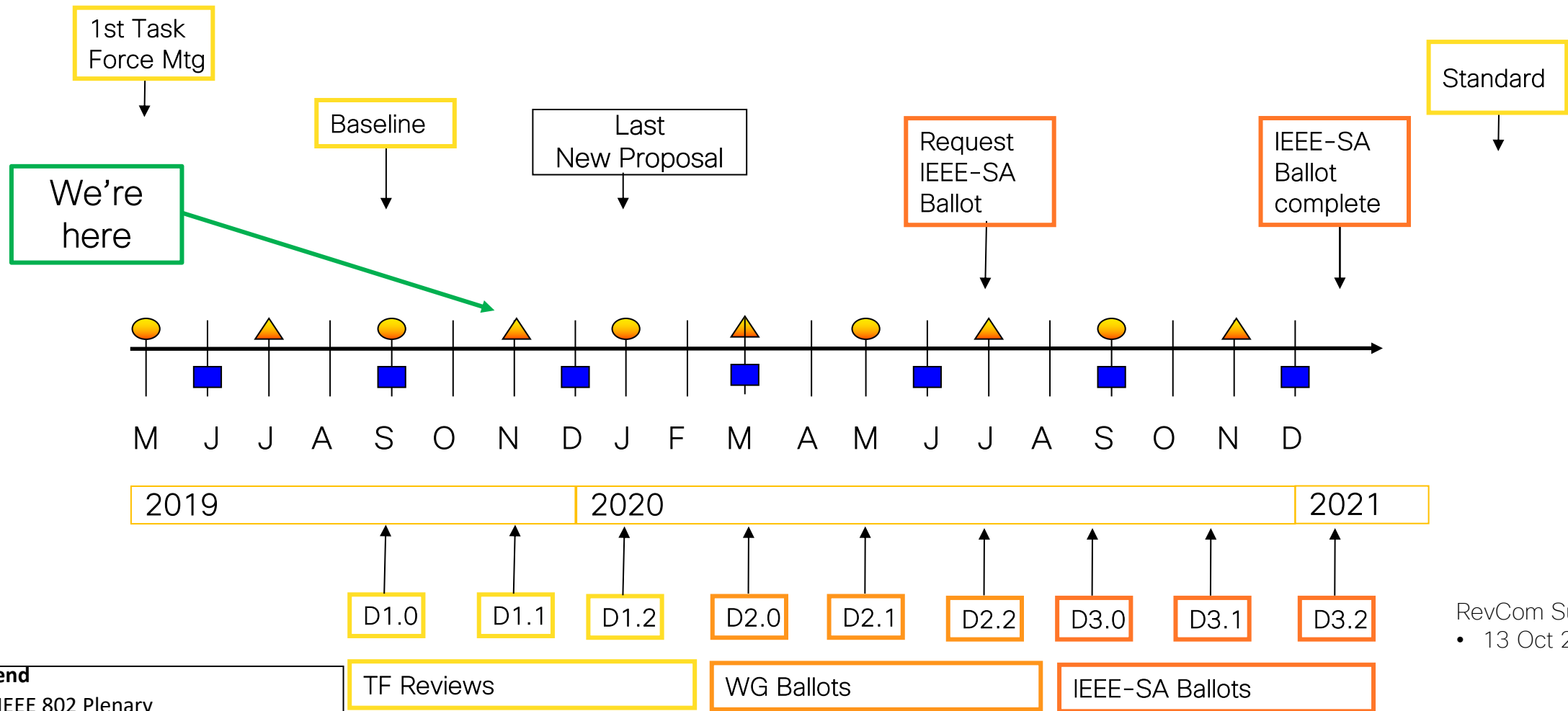| Nov 6th, 2019 Teleconference			
802.3cu D1p0 TDECQ-SECQ considerations	6-Nov-2019	Marco Mazzini	Cisco
Clarification of proposal for value of TDECQ –SECQ Related to comment #7	6-Nov-2019	Peter Stassar	Huawei
Oct 23rd, 2019 Teleconference			
802.3 SMF PMD Nomenclature Proposal with Application to 400GBASE-LR4	23-Oct-2019	Chris Cole	Finisar
Considerations on overload for 100GBASE-FR1	23-Oct-2019	Peter Stassar	Huawei
Oct 15th, 2019 Teleconference			
802.3cu D1p0 - proposed editing to 100GBASE FR1/LR1 and 400GBASE FR4/LR4 PMDs	15-Oct-2019	Marco Mazzini	Cisco

IEEE P802.3cu Task Force Approved Project Documents

- PAR
  - http://www.ieee802.org/3/cu/P802_3cu_PAR.pdf
- CSD
  - https://mentor.ieee.org/802-ec/dcn/19/ec-19-0062-00-ACSD-p802-3cu.pdf
- Objectives
  - http://www.ieee802.org/3/cu/Objectives_Approved_Sept_2019.pdf
- Timeline
  - TBD

Approved Objectives (Updated Sept 2019)

- Support a MAC data rate of 100 Gb/s

- Support a MAC data rate of 400 Gb/s

- Support full-duplex operation only

- Preserve the Ethernet frame format utilizing the Ethernet MAC

- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard

- Provide appropriate support for OTN

- Support a BER of better than or equal to 10-12 at the MAC/PLS service interface (or the frame loss ratio equivalent) for 100 Gb/s operation

- Support a BER of better than or equal to 10-13 at the MAC/PLS service interface (or the frame loss ratio equivalent) for 400 Gb/s operation

- Define a single-wavelength 100 Gb/s PHY for operation over SMF with lengths up to at least 2 km

- Define a single-wavelength 100 Gb/s PHY for operation over SMF with lengths up to at least 10 km

- Define a four-wavelength 400 Gb/s PHY for operation over SMF with lengths up to at least 2 km

- Define a four-wavelength 400 Gb/s PHY for operation over SMF with lengths up to at least 6 km

IEEE P802.3cu Task Force draft Timeline

1st Task Force Mtg

Baseline

Last New Proposal

Request IEEE-SA Ballot

IEEE-SA Ballot complete

Standard

We're here

M J J A S O N D J F M A M J J A S O N D

2019   2020   2021

D1.0 D1.1 D1.2 D2.0 D2.1 D2.2 D3.0 D3.1 D3.2

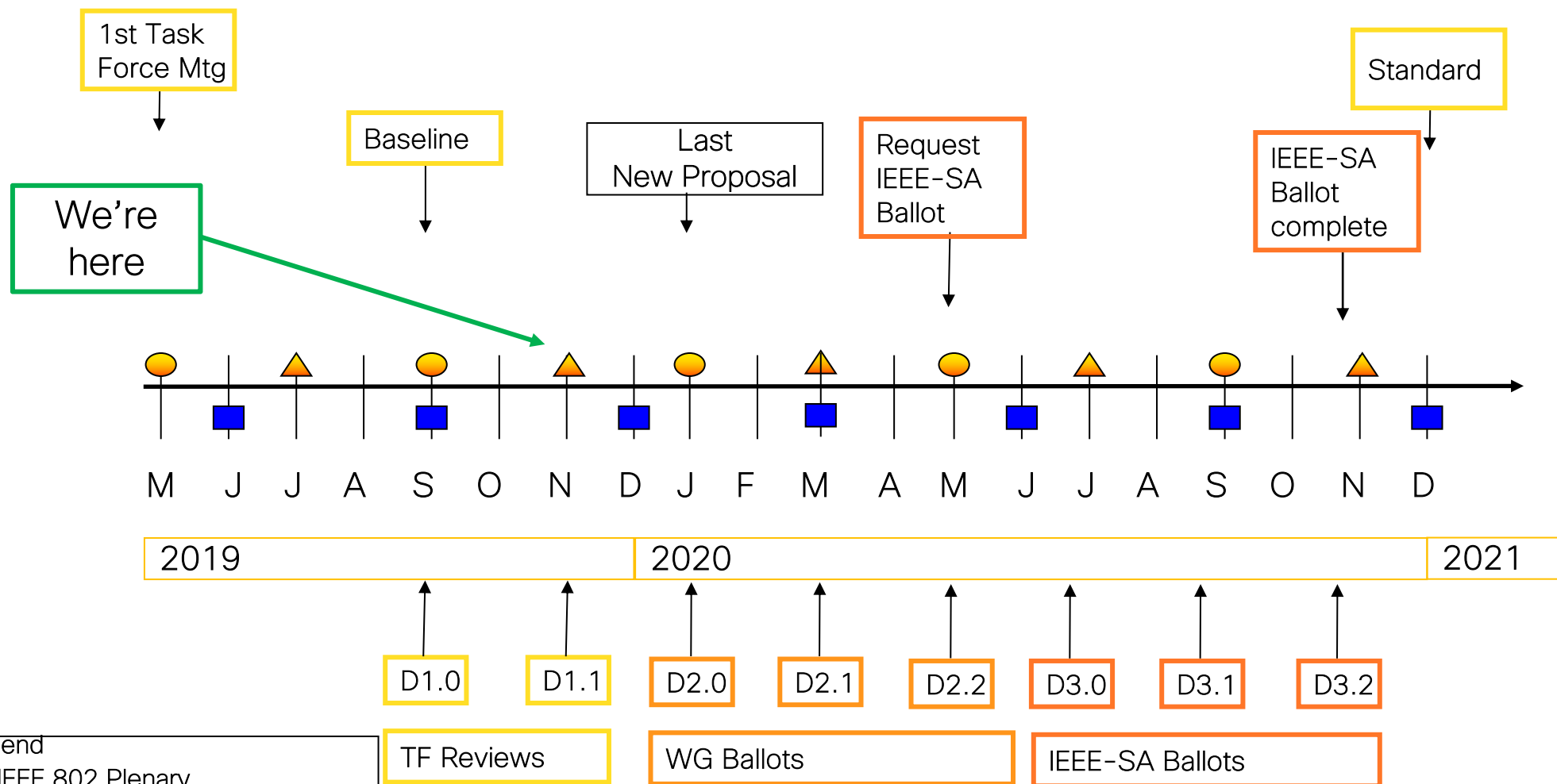TF Reviews   WG Ballots   IEEE-SA Ballots

RevCom Submittal dates
• 13 Oct 2020

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

30

IEEE P802.3cu Task Force draft Timeline

1st Task Force Mtg

Baseline

Last New Proposal

Request IEEE-SA Ballot

Standard

IEEE-SA Ballot complete

We're here

M J J A S O N D J F M A M J J A S O N D

2019 2020 2021

D1.0 D1.1 D2.0 D2.1 D2.2 D3.0 D3.1 D3.2

TF Reviews WG Ballots IEEE-SA Ballots

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

RevCom Submittal dates
• 13 Oct 2020

31

Goals for the meeting

- Resolve comments received against D1.0
  - Review any technical contributions (including proposals aimed towards spec changes)
- Consider any contributions on nomenclature (to be handled outside the comment process)
- Adopt a Task Force timeline

Meeting Logistics

- Meeting:
  - Monday afternoon 1pm-5pm (Queen's 5)
  - Tues all day 9am-5pm (Kona 5)

Contributed Presentations

Title	Updated	Author(s)	Affiliation
General Information			
Agenda	7-Nov-2019	Mark Nowell	Cisco
Chief Editor Report	7-Nov-2019	Gary Nicholl	Cisco
Comment Agenda	7-Nov-2019	Gary Nicholl	Cisco
Minutes		Kenneth Jackson	Sumitomo Electric
Contributed Presentations			
802.3 SMF PMD Nomenclature Proposal with Application to 400GBASE-LR4	7-Nov-2019	Chris Cole	II-VI
Nomenclature of 4X100 Gb/s optical PHY for lengths up to at least 6km	7-Nov-2019	XinyuanWang Yu Xu	Huawei Huawei
Select SMF and Link Specifications Review	7-Nov-2019	Chris Cole	II-VI
802.3cu D1p0 proposed editing to 100GBASE-FR1/LR1 and 400GBASE-FR4/LR4 PMDs	7-Nov-2019	Marco Mazzini Brian Welch Matt Traverso	Cisco Cisco Cisco
802.3cu D1p0 TDECQ-SECQ considerations	7-Nov-2019	Marco Mazzini Brian Welch	Cisco Cisco
Clarification of proposal for value of TDECQ – SECQ related to comment #7	7-Nov-2019	Peter Stassar	Huawei

Meeting Schedule – Mon/Tues

Monday 11-Nov-19

Time	Presenter	Affiliation	Title	File Name	Dur.
1:00 PM	Mark Nowell	Cisco	Agenda and General Information	agenda_3cu_01_1119.pdf	0:45
1:45 PM	Gary Nicholl	Cisco	Chief Editor Report	nicholl_3cu_01_1119.pdf	0:15
2:00 PM	Gary Nicholl	Cisco	Comment Agenda	nicholl_3cu_02_1119.pdf	0:10
2:10 PM	Chris Cole	II-VI	802.3 SMF PMD Nomenclature Proposal with Application to 400GBASE-LR4	cole_3cu_01_1119.pdf	0:25
2:35 PM	Xinyuan Wang	Huawei	Nomenclature of 4X100 Gb/s optical PHY for lengths up to at least 6km	wang_3cu_01_1119.pdf	0:30
3:05 PM			Break		0:15
3:20 PM			Nomenclature Discussion, Straw Polls, Motions		0:30
3:50 PM	Chris Cole	II-VI	Select SMF and Link Specifications Review	cole_3cu_02_1119.pdf	0:20
4:10 PM			Comment Resolution (and presentations as needed)		1:20
5:30 PM			Break		0:20

Tuesday 12-Nov-19

Time	Presenter	Affiliation	Title	File Name	Dur.
9:00 AM	Mark Nowell	Cisco	Opening	agenda_3cu_01_1119.pdf	0:15
9:15 AM			Comment Resolution (and presentations as needed)		1:15
10:30 AM			Break		0:15
10:45 AM			Comment Resolution (and presentations as needed)		1:15
12:00 PM			Lunch		1:00
1:00 PM			Comment Resolution (and presentations as needed)		2:00
3:00 PM			Break		0:15
3:15 PM			Comment Resolution (and presentations as needed)		1:45
			Adjourn when complete		

Future Meetings & Ad hocs

- Ad-hoc meeting plans
  - On-going quasi-bi-weekly meetings, agendas will be published.
  - Timeslot TBD
- See: http://www.ieee802.org/meeting/index.html
- Jan 2020, Interim
  - Week of Jan 20thm 2020, Geneva, CH
- March 2020, Plenary
  - Week of March 16th, 2020. Atlanta, Ga.
- May 2020, Interim
  - Week of May 18th, 2020. Pasadena, Ca.
- July 2020 Plenary
  - Week of July 13th, 2019. Montreal, QC

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

Thank You!