

# Agenda and General Information

IEEE P802.3cp 10, 25, and 50 Gb/s  
bidirectional optical access PHYs

Frank Effenberger  
Futurewei technologies  
Waikoloa, Nov 2019

# Meeting coordinates

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- Meeting time
  - Tuesday 13:00 ~ 18:00
  - Wednesday 09:00 ~ 18:00
  - (if needed) Thursday 09:00 ~ 12:00
- Meeting place
  - Queen's 4, Hilton Waikoloa

# Agenda

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- Welcome and Introductions
- Approve Agenda
- Approve July 2019 Minutes
- Goals for this meeting
- Big Ticket Items
- Reflector and Web
- Ground Rules
- IEEE
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Presentations
- Review the draft
- Liaisons and Communications
- Future Meetings
- Motions and Closing Business

# Initial motions

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- #1: Move to approve this agenda
  - M: Ray Nering S: Marek Hajduczenia
  - Yes: No: Abs:
  - Motion result: Approved by voice without opposition
- #2: Move to approve the minutes from Sep 2019, located at: [http://www.ieee802.org/3/cp/public/1909/P802.3cp\\_unapproved\\_minutes\\_1909\\_Indianapolis.pdf](http://www.ieee802.org/3/cp/public/1909/P802.3cp_unapproved_minutes_1909_Indianapolis.pdf)
  - M: Ray Nering S: Mark Laubach
  - Yes: No: Abs:
  - Motion result: Approved by voice without opposition

# 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

# Goals for the meeting

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- Consider presentations
- Review comments received
- Be ready to create D1.1 for additional review
- Lay the ground work for the next meeting

# Big ticket items

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- Wavelength plans for the Fast and Long links
- Loss budgets

# Reflector and Web

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- To subscribe to the BIDI 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-NGBIDI](#) <yourfirstname> <yourlastname>  
end*

- Send <<*Task Force name*>> reflector messages to:

[stds-802-3-NGBIDI@listserv.ieee.org](mailto:stds-802-3-NGBIDI@listserv.ieee.org)

- Task Force web page URL:

<http://www.ieee802.org/3/cp/>



# Task Force Private Area

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- URL: <http://www.ieee802.org/3/cp/private/>
  - Username: 802.3cp
  - 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

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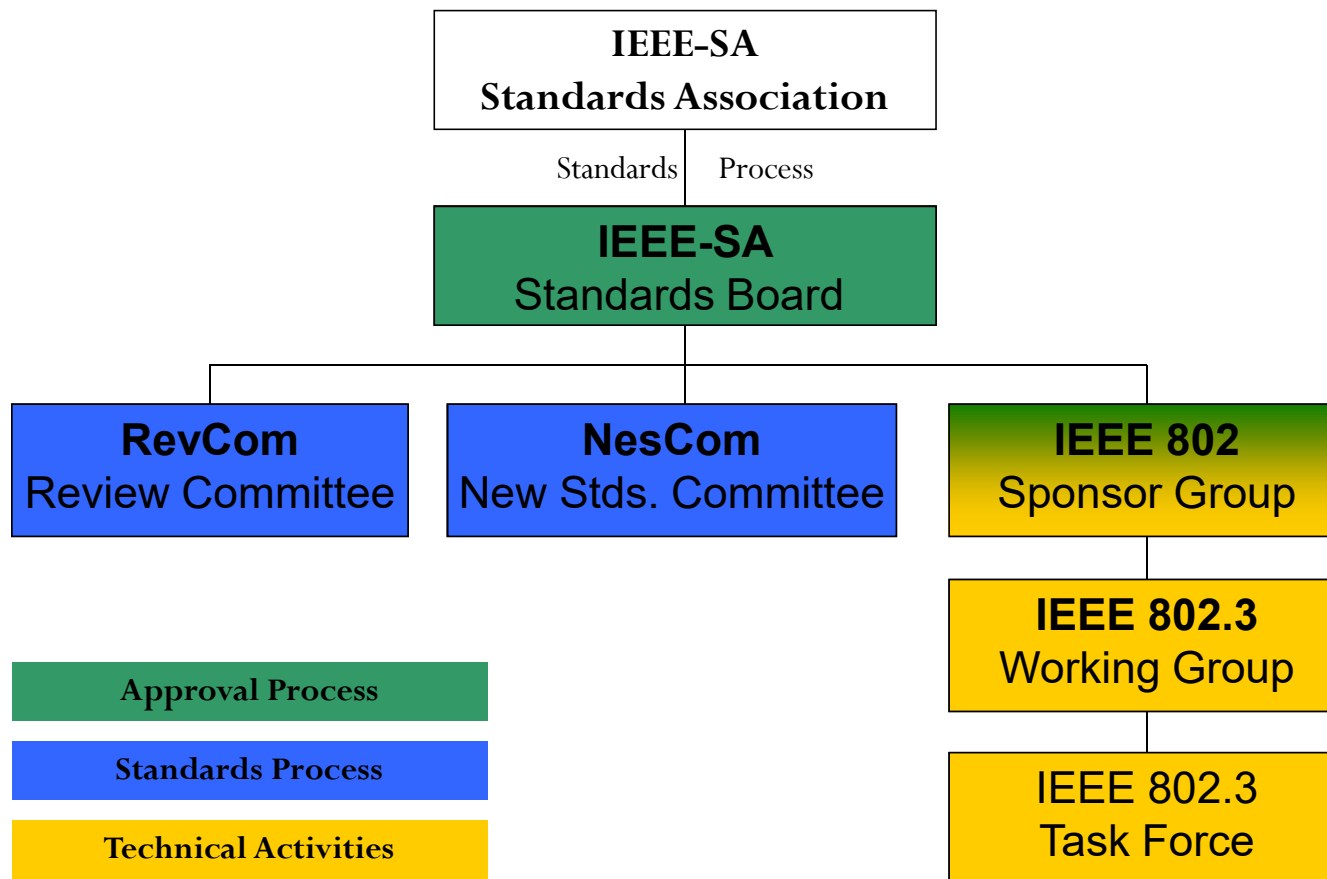
- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency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

# Attendance

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- 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

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- **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)

# 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](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>

## **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](mailto: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)**

## 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>

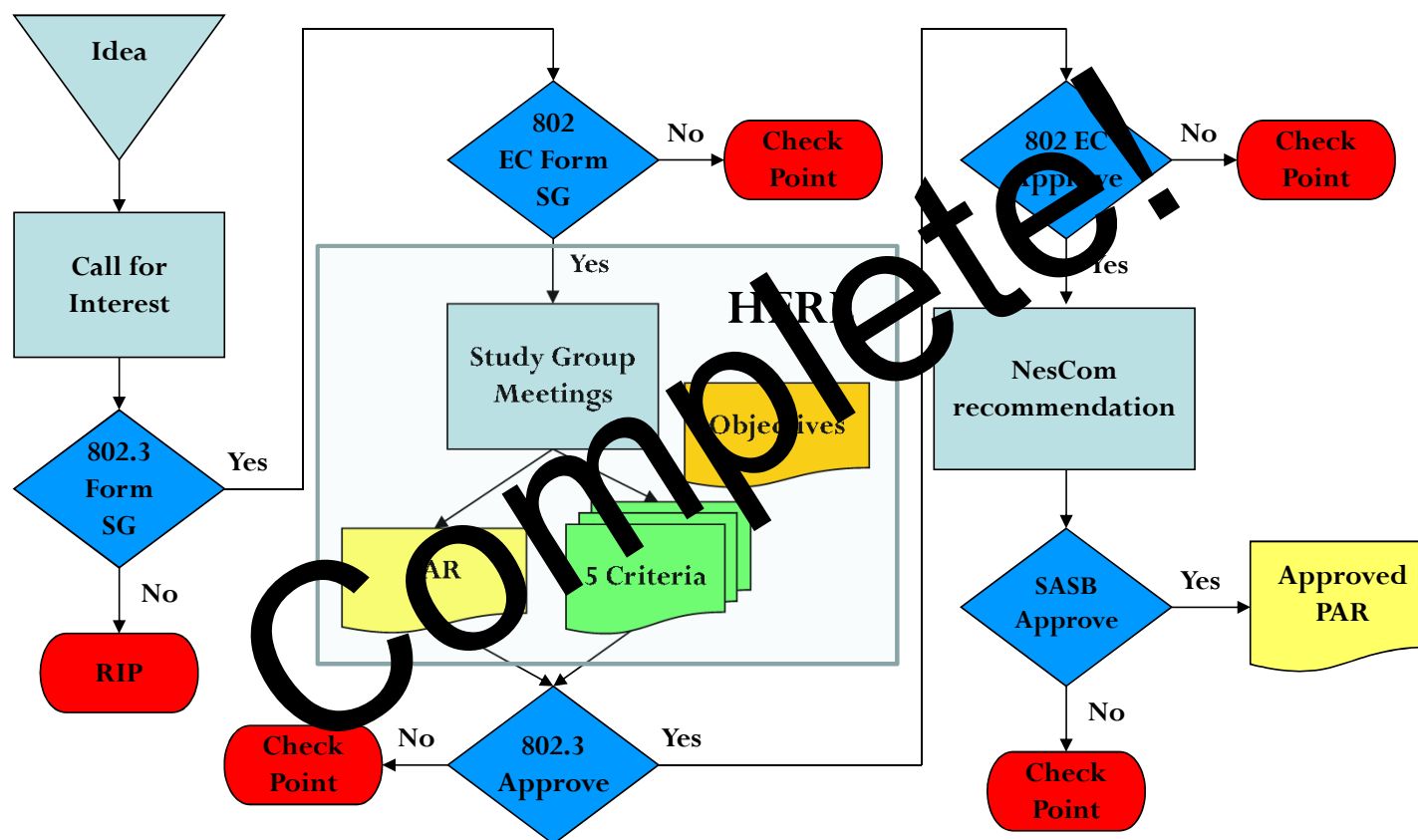
## Participants in the IEEE-SA “*individual process*” shall act independently of others, including employers

- 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

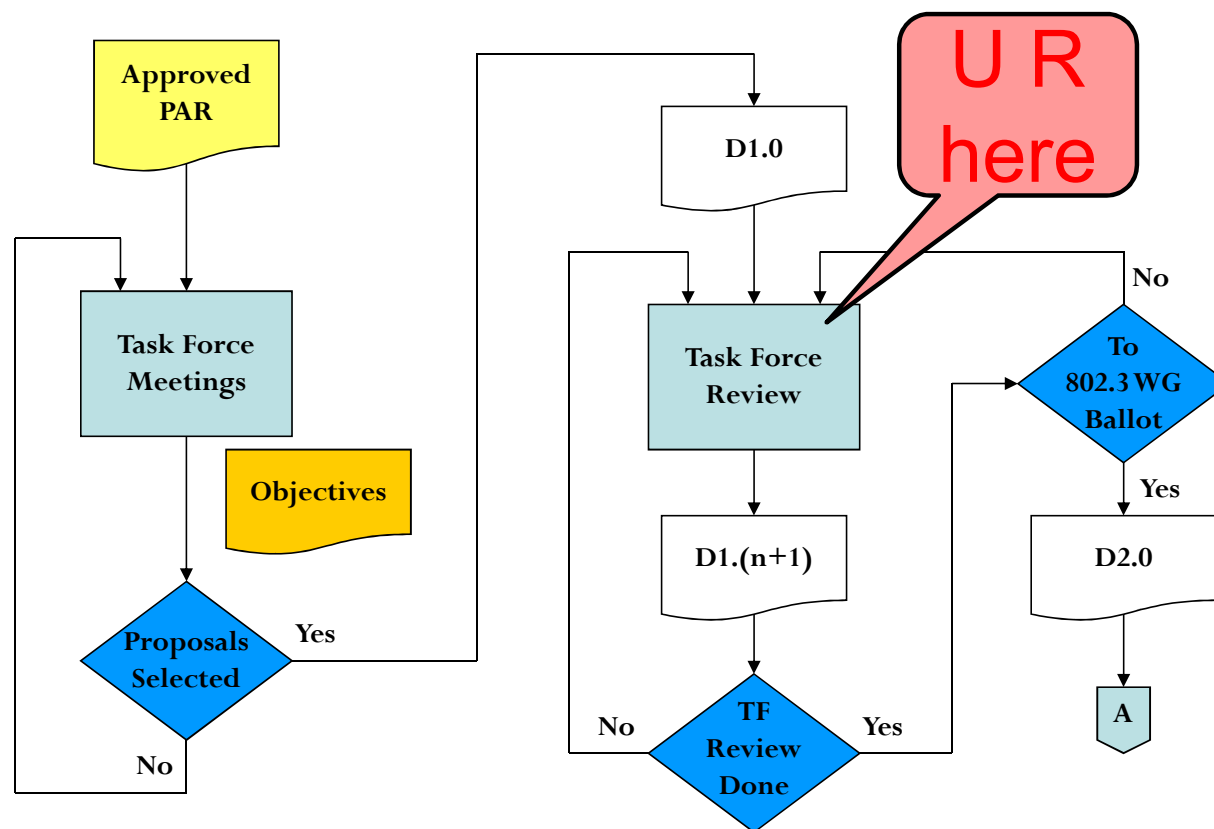
- The [IEEE-SA Standards Board Bylaws](#) (clause 5.2.1.3) specifies that *“the standards development process shall not be dominated by any single interest category, individual, or organization”*
  - This means no participant may exercise *“authority, leadership, or influence by reason of superior leverage,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



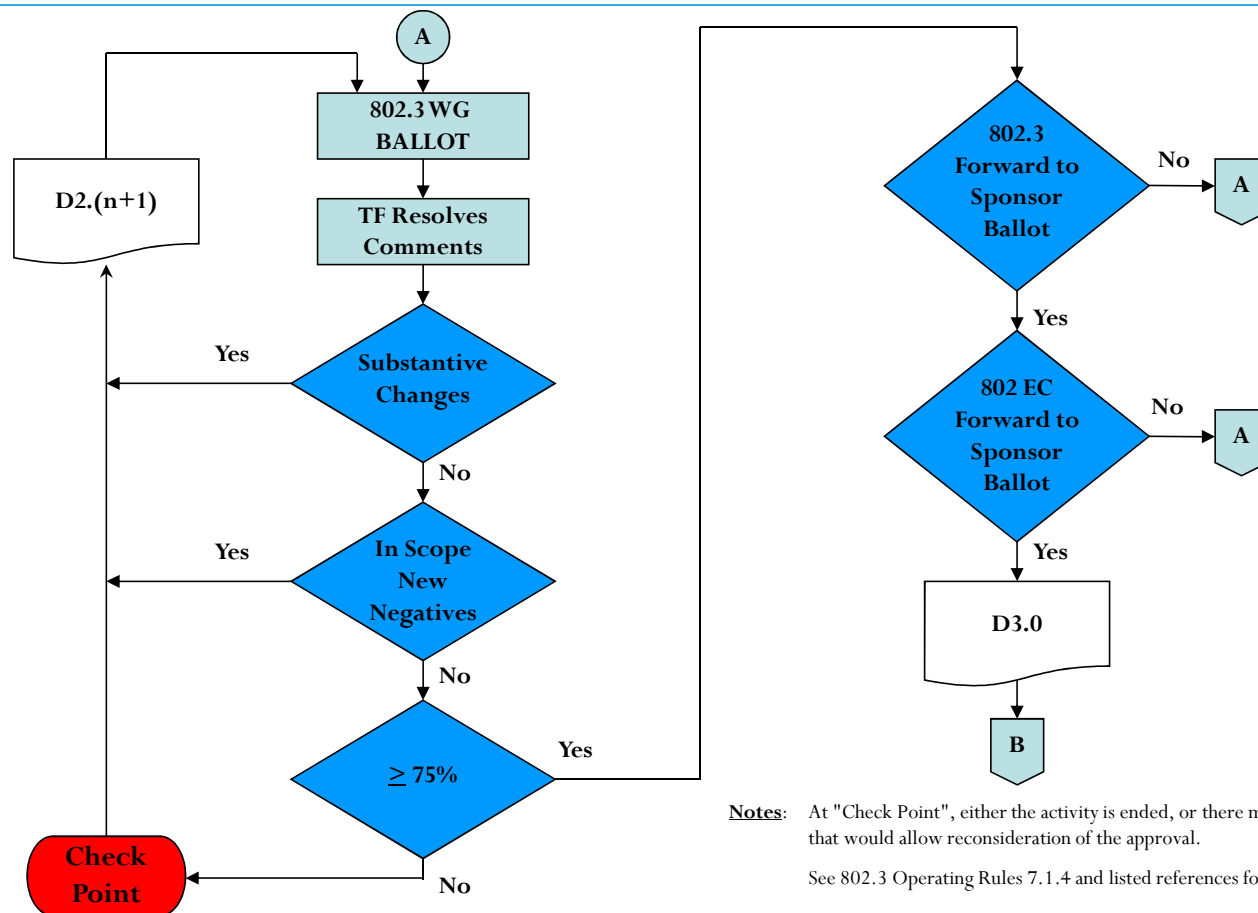
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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





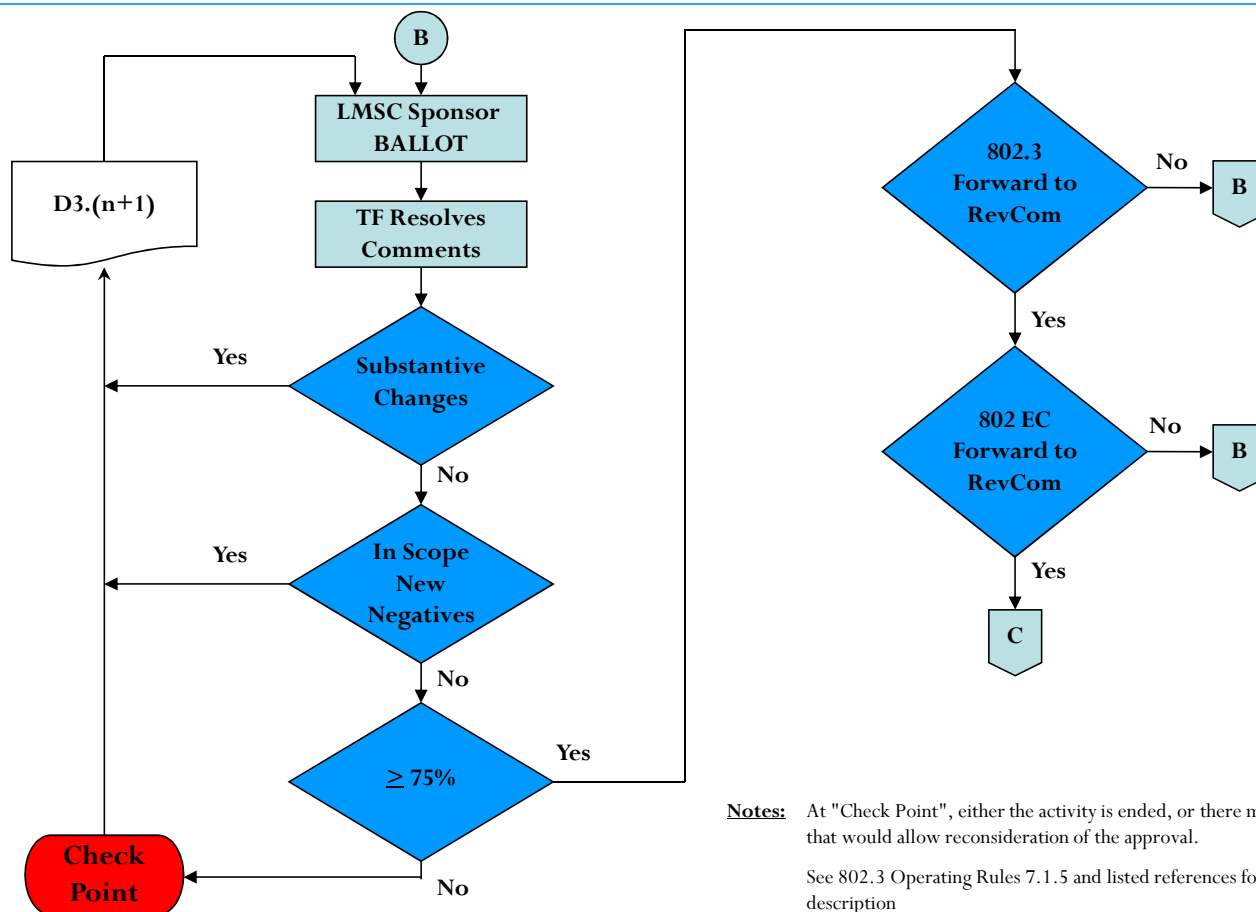
## Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



**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 Operating Rules 7.1.4 and listed references for complete description

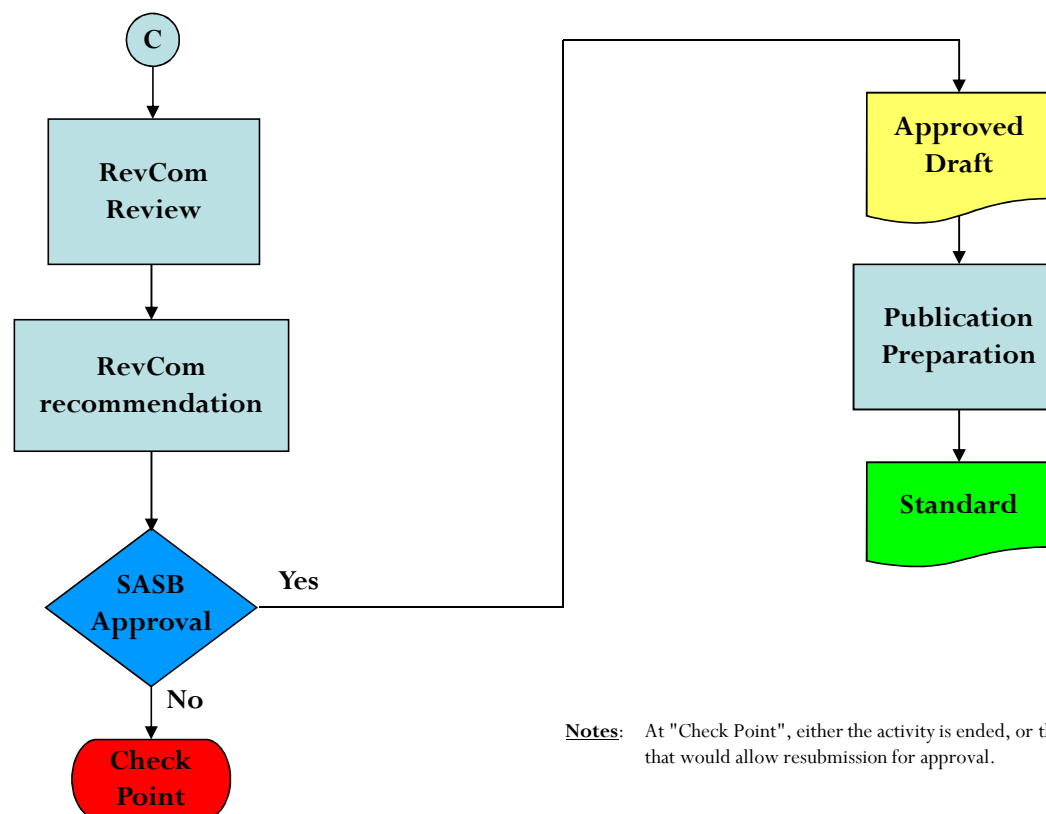
## Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



**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.

# IEEE P802.3cp

## 10, 25, & 50 Gb/s bidirectional optical access PHYs

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### Approved Project Documents

- PAR
  - [http://www.ieee802.org/3/cp/P802\\_3cp\\_PAR.pdf](http://www.ieee802.org/3/cp/P802_3cp_PAR.pdf)
- 5 Criteria
  - <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0245-00-ACSD-p802-3cp.pdf>
- Objectives
  - [http://www.ieee802.org/3/cp/180911\\_802d3\\_OBJ\\_BiDi\\_v2.pdf](http://www.ieee802.org/3/cp/180911_802d3_OBJ_BiDi_v2.pdf)

# IEEE P802.3cp Bidi optical access PHYs

## Objectives

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- Support full-duplex operation only
- Support bidirectional transmission over a single strand of single mode fiber using a single wavelength in each direction
- Support MAC data rates of 10 Gb/s, 25 Gb/s, and 50 Gb/s
- Support distances of at least 10 km, at least 20 km, and at least 40 km
- 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 optional Energy-Efficient Ethernet operation
- Support silent start\* operation to prevent bidirectional PHYs interfering with P2MP networks

\* Silent start means that the upstream-facing PHY does not transmit unless a valid downstream signal is received. This prevents the bidirectional PHY from jamming transmission on the P2MP network in cases of unintentional connection

# IEEE P802.3cp Bidi optical access PHYs

## Working Group ballot results

- Item 1 - Date the ballot closed:
  - The << [*Initial* | *X<sup>xx</sup>*] >> Working Group <<*recirculation*>> ballot on IEEE P802.3<<*xx*> draft D<<*n.n*> closed on <<*date*>> at 11:59 PM AOE.

- Item 2 - Vote tally:

Comments: << <i>nn</i> >>	<< [ <i>Initial</i>   <i>X<sup>xx</sup></i> <i>recirculation</i> ] >> Draft D << <i>n.n</i> >			Req %
	#	%	Status	
Abstain	<i>nn</i>	<i>nn</i>	PASS/FAIL	< 30
Disapprove with comment	<i>n</i>	-	-	-
Disapprove without comment	<i>n</i>	-	-	-
Approve	<i>nn</i>	<i>nn</i>	PASS/FAIL	≥ 75
Ballots returned	<i>nn</i>	<i>nn</i>	PASS/FAIL	> 50
Voters	<i>nn</i>	-	-	-

# IEEE P802.3cp Bidi optical access PHYs

## Sponsor ballot results

- Item 1 - Date the ballot closed:
  - The << [*Initial* | *X<sup>xx</sup>*] >> Sponsor <<*recirculation*>> ballot on IEEE P802.3<<*xx*> draft D<<*n.n*> closed on <<*date*>> at 11:59 PM <<*EST/EDT*>>.

- Item 2 - Vote tally:

Comments: << <i>nn</i> >>	<< [ <i>Initial</i>   <i>X<sup>xx</sup> recirculation</i> ] >> Draft D << <i>n.n</i> >			Req %
	#	%	Status	
Abstain	<i>nn</i>	<i>nn</i>	PASS/FAIL	< 30
Disapprove with comment	<i>n</i>	-	-	-
Disapprove without comment	<i>n</i>	-	-	-
Approve	<i>nn</i>	<i>nn</i>	PASS/FAIL	≥ 75
Ballots returned	<i>nn</i>	<i>nn</i>	PASS/FAIL	≥ 75
Voters	<i>nn</i>	-	-	-

# Action Items from last meeting

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- None



# Presentations

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- |   |             |        |
|---|-------------|--------|
| • <a href="#">Wavelength proposal for 50G 40km BiDi</a> | Lemon Geng  | Huawei |
| • <a href="#">Proposal of 25G-BR &amp; 50G-BR PMD</a>   | Hanhyub Lee | ETRI   |
| • <a href="#">Wavelength for BiDi 40km for 50Gb/s</a>   | Song Chen   | ZTE    |

Late breaking contributions

- |                                   |             |       |
|-----------------------------------|-------------|-------|
| • <a href="#">50G 40km update</a> | Tom Palkert | Molex |
|-----------------------------------|-------------|-------|

Comment resolution

- |  |            |
|--|------------|
| • <a href="#">Draft 1.0</a> (Password) | Task Force |
|--|------------|

# Straw poll #1

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- Wavelengths for 25G and 50G, distance 20km and 40km
  - Chicago rules, vote early, vote often. Vote
- Option 1:      1290 +/-8      1310 +/-8      6
- Option 2:      1292~1296      1306~1310      7
- Option 2a:      1288+/-8      1314+/-8      14
- Option 3:      1270 +/- 10      1310 +/- 10      6
  - Room count: 20

## Straw poll #2

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- Wavelengths for 25G and 50G, distance 20km and 40km
  - Option 2a: 1288+/-8                      1314+/-8
  - Yes      16
  - No      2
  - Abs      0
- It was concluded that there was a consensus for option 2a. This was reflected in the comment resolution.

# Loss budget options

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The following loss budgets were agreed to be used for draft 1.1.

	Min Loss	Max Loss
BR10 (no change)	0	6.3
BR20 (+2dB higher loss)	0	15
BR40 (min loss down to 5 dB)	5 (check feasibility)	18
BR40+ (min loss down to 10 dB)	10	23

## Motion #3

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- Move to accept comments #39 to #51 into the database.  
(They were submitted on time, but were left out in a clerical mistake.)
  - M: Yuanqiu Luo                      S: Vince Ferretti
  - Procedural >50%
  - Yes:                      No:                      Abs:
  - Motion result: Passes by voice without opposition

# Liaisons and Communications

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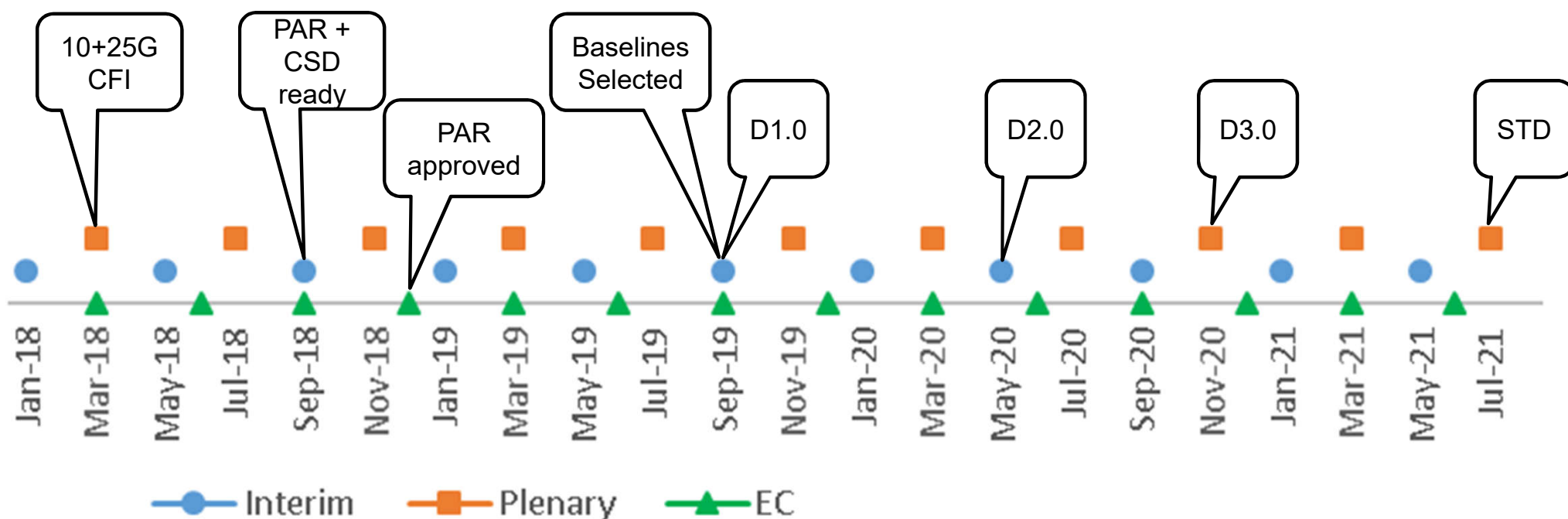
- Liaison to ITU-T Q2/15:
  - The next Q2/15 face to face meeting happens two weeks after the next 802.3cp meeting; therefore, if we want to send a formal liaison to that group, we can do it at the next meeting
  - The editor and chairman will work to keep the members of Q2/15 informed as to the status of our project, and keep their interest going

## Motion #4

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- Move that the editor create draft 1.1 based upon draft 1.0, reflecting the motions and comment resolutions found in 802d3cp\_D1p0\_approved.pdf.
- Technical ( $\geq 75\%$ )
- M: Yuanqiu Luo S: Hanhyub Lee
- Results Y: 8 N: 0 A: 0
- Motion passes

# Proposed Timeline





# Future Meetings

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

I expect to attend this meeting				
		Yes	Maybe	Nope
• Jan 2020 <i>Interim</i>	– Geneva	7	2	0
	– Jan 20-24			
• Mar 2020 Plenary	– Atlanta	6	2	1
	– Mar 16-19			
• Anyone interested in hosting a interim meeting contact me or the IEEE 802.3 Executive Secretary <a href="#">Steve Carlson</a> .				

# Any other issues?

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- Teleconference Dec 19 (hold a doodlepoll to choose time)
- We should formalize the comment submission process, so that lost comments become less frequent
  - Send all comment files to [Yuanqiu.Luo@Futurewei.com](mailto:Yuanqiu.Luo@Futurewei.com), and cc [Frank.effenberger@Futurewei.com](mailto:Frank.effenberger@Futurewei.com)
  - The subject line shall be:  
BIDIcomments\_YYMMDD\_name\_index#.csv
  - The comment file should be similarly named
  - Remind commenters that remedy should be specific and implementable.

# Motion #5

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- Move to adjourn the meeting.
- Procedural (>50%)
- M: Bill Powell S: Joseph Coffey
- Results Y: N: A:
- Approved by voice without opposition

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# Thank You!