Agenda, Study Group Status and Work

IEEE 802.3 100 Gb/s Wavelength Short Reach PHYs Study Group

Robert Lingle, Jr

Study Group Chair

OFS

Ad Hoc Meeting, April 9, 2020

Meeting

- Attendance
  - The WebEx tool does not record attendance
  - Please indicate your name and employer/affiliation in an e-mail to the ad hoc recording secretary: Mabud Choudhury (mchoudhury@ofsoptics.com).
- WebEx
  - Please mute your lines if you are not speaking
    - *6 to mute/unmute or click on mute button in the WebEx window
  - Noisy, unmuted lines will be muted by the WebEx organizer
    - *6 to unmute if this happens to you
- Calendar invitation for WebEx was sent to the Reflector
  - https://listserv.ieee.org/cgi-bin/wa?A2=ind20&L=STDS-802-3-100GSR&O=D&P=7450

Agenda

- Meeting Attendance and WebEx
- Approve Agenda
- 100GSR Study Group ad hoc communications
- IEEE Patent Policy reminder:
  - https://mentor.ieee.org/myproject/Public/mytools/mob/preparslides.pdf
- IEEE SA Copyright Policy reminder:
  - https://standards.ieee.org/ipr/index.html
- IEEE Participation Requirements reminder:
  - https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/Participant-Behavior-Individual-Method.pdf
- SG Status
- Call for Contributions for May 13th 100GSR SG Interim Teleconference
- Presentation
  - "200G-DR2 Considerations" Brian Welch (Cisco)
  - "100Gbps MMF Objectives" Steve Swanson (Corning)
- Future Meetings

100GSR Study Group ad hoc communications

- The SG web page:
  - http://www.ieee802.org/3/100GSR/index.html
- SG ad hoc schedule and WebEx information:
  - http://www.ieee802.org/3/100GSR/public/adhoc/
- SG ad hoc presentations:
  - http://www.ieee802.org/3/100GSR/public/adhoc/presentations/index.html
- All e-mail communications are via the SG reflector
  - archive and subscription links are here:
    - https://listserv.ieee.org/cgi-bin/wa?A0=STDS-802-3-100GSR
    - http://www.ieee802.org/3/100GSR/reflector.html

Guidelines for IEEE-SA 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

    If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org

◈IEEE

INSTRUCTIONS FOR CHAIRS OF STANDARDS DEVELOPMENT ACTIVITIES

At the beginning of each standards development meeting the chair or a designee is to:

- Show the following slides (or provide them beforehand)
- Advise the standards development group participants that:
- IEEE SA's copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
- Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy;
- Instruct the Secretary to record in the minutes of the relevant meeting:
- That the foregoing information was provided and that the copyright slides were shown (or provided beforehand).

IEEE SA STANDARDS ASSOCIATION

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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 STANDARDS ASSOCIATION

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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

IEEE SA STANDARDS ASSOCIATION

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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*

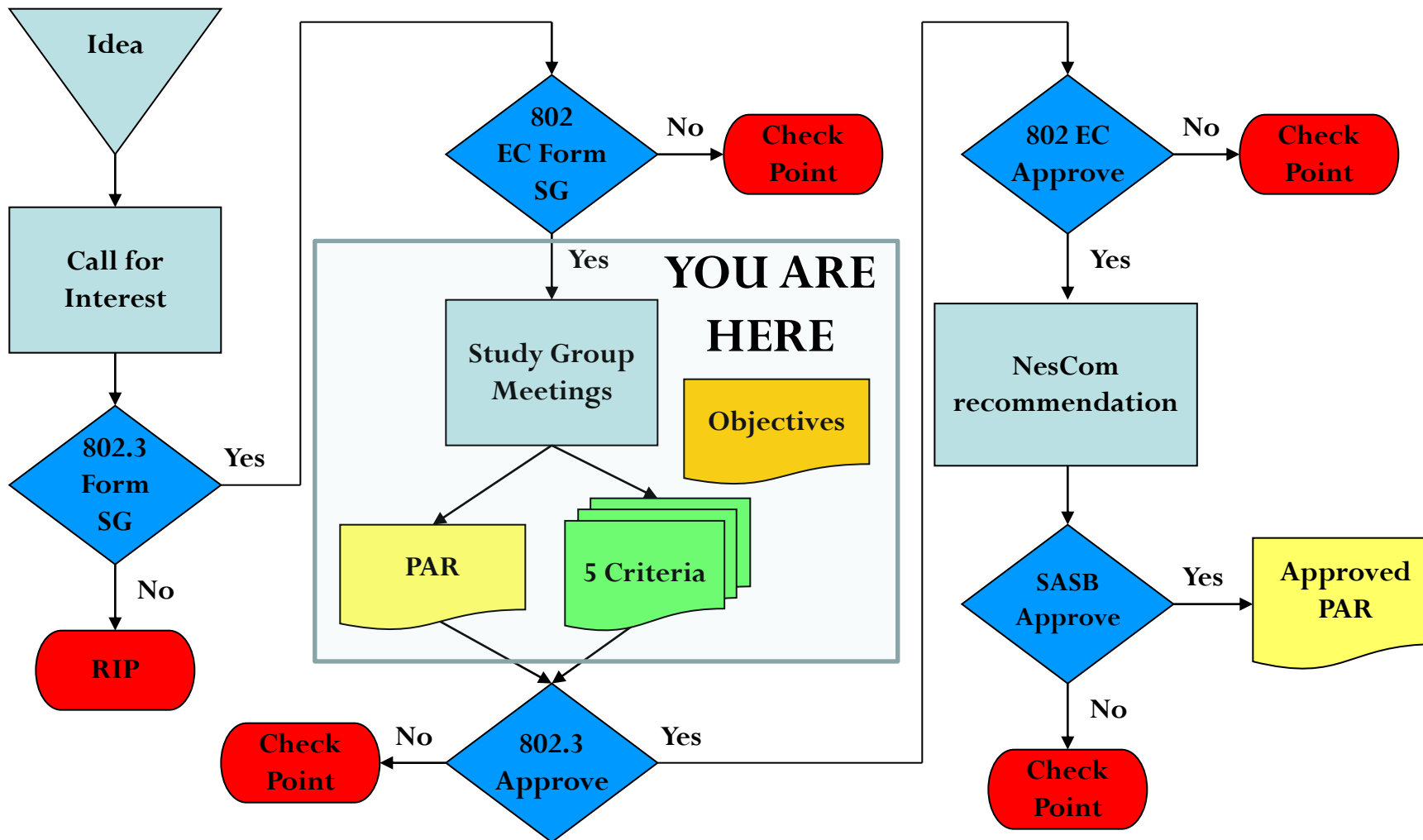- The most recent versions of these Codes are available at http://www.ieee.org/about/corporate/governance

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.

The Study Group

- Normal function is to draft a complete PAR and Five Criteria
- Provide a plenary week tutorial to the LMSC.
- Gain approval at the IEEE 802.3 WG, IEEE 802 EC, IEEE-SA NesCom and IEEE-SA Standards Board.
- SG only exists for 6 months
  - Extensions can be requested
  - Voted on by IEEE 802.3
  - Ratified by IEEE 802 EC
- Development of Objectives helps set the goals for the Task Force
- Consensus required to move forward

- Not a goal – choosing a solution.

PAR, CSD, Objectives

IEEE 802.3 100 Gb/s Wavelength Short Reach PHYs Study Group

The IEEE 802 LMSC Executive Committee has chartered a Study Group under the IEEE 802.3 Ethernet Working Group to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for "Lower cost, short reach, optical PHYs using 100 Gb/s wavelengths".

- Draft project documents
  - PAR (Approved by Study Group - Jan 2020)
  - Criteria for Standards Development (Approved by Study Group - Jan 2020)
  - Objectives (Approved by Study Group - Jan 2020)

- Draft project documents. Adopted by SG, January 2020:
  - PAR
  - Criteria for Standards Development
  - Objectives

Objectives

1. Support a MAC data rate of 100 Gb/s, 200 Gb/s and 400 Gb/s

2. Support full-duplex operation only

3. Preserve the Ethernet frame format utilizing the Ethernet MAC

4. Preserve minimum and maximum FrameSize of current IEEE 802.3 standard

5. Provide appropriate support for OTN

6. 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

7. Support a BER of better than or equal to 10^-13 at the MAC/PLS service interface (or the frame loss ratio equivalent) for 200 Gb/s and 400 Gb/s operation

Objectives

8. Define a physical layer specification that supports 100 Gb/s operation over 1 pair of MMF with lengths up to at least 50 m

9. Define a physical layer specification that supports 200 Gb/s operation over 2 pairs of MMF with lengths up to at least 50 m

10. Define a physical layer specification that supports 400 Gb/s operation over 4 pairs of MMF with lengths up to at least 50 m

Interim Teleconference on May 13, 2020

- The IEEE 802.3 100G Short Reach SG will hold an Interim Teleconference meeting on May 13, 2020 at 10am US Eastern Time for up to 3 hours. At this meeting, we will be able to vote on motions and conduct the full business of the SG. Final guidance on procedures will be forthcoming soon. It is likely that a procedure will be followed whereby you will register to attend the Study Group Telephonic Interim, at least one hour in advance, to allow the chair to compose a roll, to be used for roll-call voting.

- There are three Ad Hoc call scheduled between now and the Telephonic Interim. During this time, the SG may consider, and take straw polls on the following topics, and any other in-scope items:
  - any ideas for SMF short reach objectives
  - additional MMF objectives with distinct identity from those adopted at the Geneva Interim meeting
  - more detailed aspects of technical feasibility of the MMF objectives previously adopted
  - any PAR & CSD response changes necessitated by potential new objectives

- The goal of the Interim Teleconference will be to vote on motions for additional objectives plus potential changes to the previously adopted PAR/CSD responses. We need to forward our final PAR, CSD responses to the EC going into the July Plenary.

Deadlines for Requesting Agenda Time and Submitting Presentations for May 13th SG Interim Teleconference

- Deadlines/Topics

  - The presenter shall request time by MONDAY, MAY 4th, 2020 11:59pm (AoE). Requests shall be submitted by sending an email to the Chair, rlingle@ofsoptics.com

  - The presenter shall submit a PDF, soft-copy version of the presentation, by e-mailing it to the Chair, rlingle@ofsoptics.com . This shall be done by FRIDAY, MAY 8th, 2020 11:59pm (AoE) for publication to the IEEE 802.3 100 Gb/s Wavelength Short Reach PHYs Study Group webpage.

  - Presentations directly related to PAR, CSD and Objectives are encouraged. Contributions on other topics will only be considered after all other agenda items are completed.

- Procedure for Presenters:

  http://www.ieee802.org/3/100GSR/public/presentproc.html

Ad Hoc Presentations

- April 9th
  - "200G-DR2 Considerations" Brian Welch (Cisco)
    - http://www.ieee802.org/3/100GSR/public/adhoc/presentations/welch_100GSR_adhoc_01_040920.pdf

  - "100Gbps MMF Objectives" Steve Swanson (Corning)
    - http://www.ieee802.org/3/100GSR/public/adhoc/presentations/swanson_100GSR_adhoc_01_040920.pdf

Future Meetings

- Ad Hoc Meetings:

  - April 23, 2020, 12 noon – 2 pm EDT/UTC -4

  - May 7, 2020, 12 noon – 2 pm EDT/UTC -4

  - Ad Hoc Call Schedule & Info: http://www.ieee802.org/3/100GSR/public/adhoc/

- Interim Teleconference:

  - May 13, 2020, 10 am – 1 pm EDT/UTC -4

Thank You!