



IEEE P802.3ba 40Gb/s and 100Gb/s Ethernet Task Force

Agenda and General Information

Denver, CO
July 2008



Agenda

- Welcome and Introductions
- Approve Agenda
- Approve the Minutes
- Goals for this Week
- Ground Rules
- Reflector and Web
- IEEE
 - Structure
 - Bylaws and Rules
 - Call for Patents
 - IEEE Standards Process
- Liaisons / Communications
- Ad Hoc Reports
- Presentations
- Discussion and Motions
- Future Meetings

Task Force Decorum



- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (2007 SASB Op Manual 5.3.3.5)
- Photography or recording by permission only (5.3.3.4)
- Cell phone ringers off
- Wear your badges at all times in meeting areas

IEEE P802.3ba Task Force Organization

| | |
|--|---|
| <u>John D'Ambrosia</u> | Task Force Chair |
| <u>Ilango Ganga</u> | Task Force Chief Editor |
| <u>Mark Gustlin</u> | "Logic" Sub-task Force Chief Editor Editor – RS and PCS Clauses |
| <u>Chris DiMinico</u> | "Cu" Sub-task Force Chief Editor Editor – 40/100G Cu PMD |
| <u>Pete Anslow</u> | "Optical" Sub-task Force Chief Editor Editor – SMF PMD Clause(s) |
| <u>Hugh Barrass</u> | Editor – Mgmt Clauses |
| <u>Jonathan King</u> | Editor – SMF PMD Clause(s) |
| <u>Arthur Marris</u> | Editor – 40G Backplane Clauses |
| <u>Steve Trowbridge</u> | Editor – PMA Clause |
| <u>Piers Dawe</u> | Editor – 40/100G MMF PMD Clause Chair – "Statistical Eye" Ad Hoc |
| <u>Alessandro Barbieri</u> | Co-chair – Extended Reach Parallel MMF Ad Hoc |
| <u>John Petrilla</u> | Co-chair - Extended Reach Parallel MMF Ad Hoc |
| <u>George Oulundsen</u> | Task Force Secretary |
| <u>Frank Chang</u> | Task Force Web Master |

Goals for the Week

- Progress towards generating D1.0
 - Hear Proposals related to:
 - Open items that need to be resolved
 - Adopted proposals that need refinement
 - Identify new issues
 - Hear Technical Presentations
- Review liaisons
- Lay groundwork for the next meeting

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

Reflector and Web

- To subscribe to the IEEE P802.3ba Task Force reflector, send an email to:

ListServ@ieee.org

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

***subscribe stds-802-3-hssg <yourfirstname> <yourlastname>
end***

- Send IEEE P802.3ba Task Force reflector messages to:

STDS-802-3-HSSG@listserv.ieee.org

- Task Force web page URL:

http://www.ieee802.org/3/ba/

IEEE P802.3ba Private Area

- URL: <http://www.ieee802.org/3/ba/private/>
 - Username: 802.3ba
 - Password: xxxxxxxx

- Write it down...

Task Force Approved Project Documents

■ PAR

- http://ieee802.org/3/ba/PAR/par_0308.pdf

■ 5 Criteria (pending IEEE 802 EC Approval)

- http://ieee802.org/3/ba/PAR/P802.3ba_5C_0308.pdf

■ Objectives

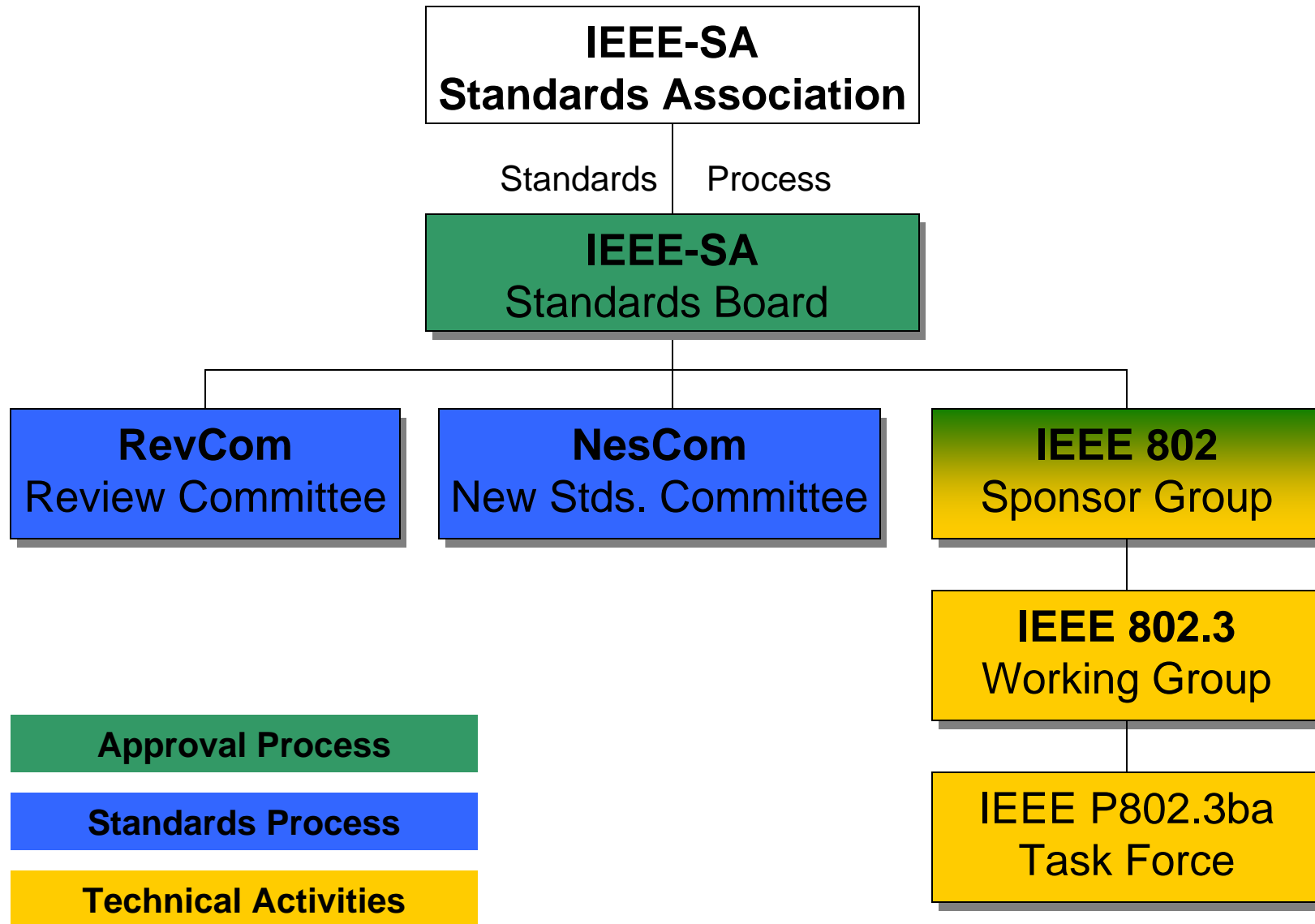
- http://ieee802.org/3/ba/PAR/P802.3ba_Objectives_0308.pdf

Task Force Objectives

- Support full-duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum FrameSize of current 802.3 standard
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface
- Provide appropriate support for OTN
- Support a MAC data rate of 40 Gb/s
- Provide Physical Layer specifications which support 40 Gb/s operation over:
 - at least 10km on SMF
 - at least 100m on OM3 MMF
 - at least 10m over a copper cable assembly
 - at least 1m over a backplane
- Support a MAC data rate of 100 Gb/s
- Provide Physical Layer specifications which support 100 Gb/s operation over:
 - at least 40km on SMF
 - at least 10km on SMF
 - at least 100m on OM3 MMF
 - at least 10m over a copper cable assembly

Adopted by IEEE P802.3ba and approved by 802.3 at Mar 2008 Plenary

IEEE Structure



Bylaws and Rules

- IEEE-SA Operations Manual:
 - <http://standards.ieee.org/sa/sa-om.pdf>
- IEEE-SA Standards Board Bylaws:
 - <http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf>
- IEEE-SA Standards Board Operations Manual:
 - <http://standards.ieee.org/guides/opman/sb-om.pdf>
- LAN/MAN Standards Committee (LMSC) Policies and Procedures:
 - <http://ieee802.org/policies-and-procedures.pdf>
- IEEE 802.3 Working Group Operating Rules:
 - http://ieee802.org/3/rules/P802_3_rules.pdf

Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy. 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**
 - **“Personal awareness” means that the participant “is personally aware that the holder may have a potential Essential Patent Claim,” even if the participant is not personally aware of the specific patents or patent claims**
- **“Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of such potential Essential Patent Claims” (that is, third parties that are not affiliated with the participant, with the participant’s employer, or with anyone else that the participant is from or otherwise represents)**
- **The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group**

Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2

- **Early identification of holders of potential Essential Patent Claims is strongly encouraged**
- **No duty to perform a patent search**

Patent Related Links

All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.

Patent Policy is stated in these sources:

IEEE-SA Standards Boards Bylaws

<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>

IEEE-SA Standards Board Operations Manual

<http://standards.ieee.org/guides/opman/sect6.html#6.3>

Material about the patent policy is available at

<http://standards.ieee.org/board/pat/pat-material.html>

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit <http://standards.ieee.org/board/pat/index.html>

This slide set is available at <http://standards.ieee.org/board/pat/pat-slideset.ppt>

Call for Potentially Essential Patents

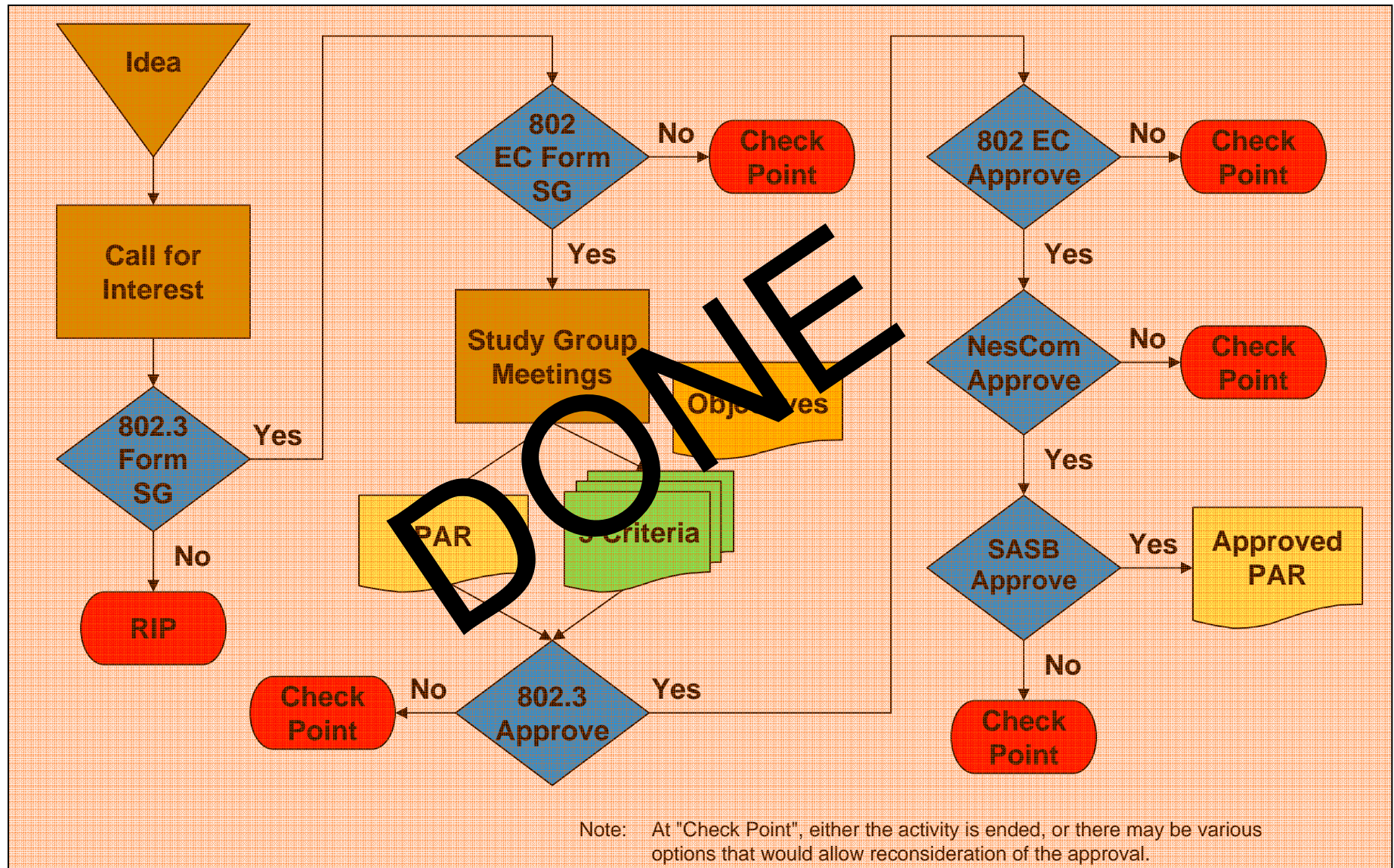
- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
 - Either speak up now or
 - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible or
 - Cause an LOA to be submitted

Other Guidelines for IEEE WG Meetings

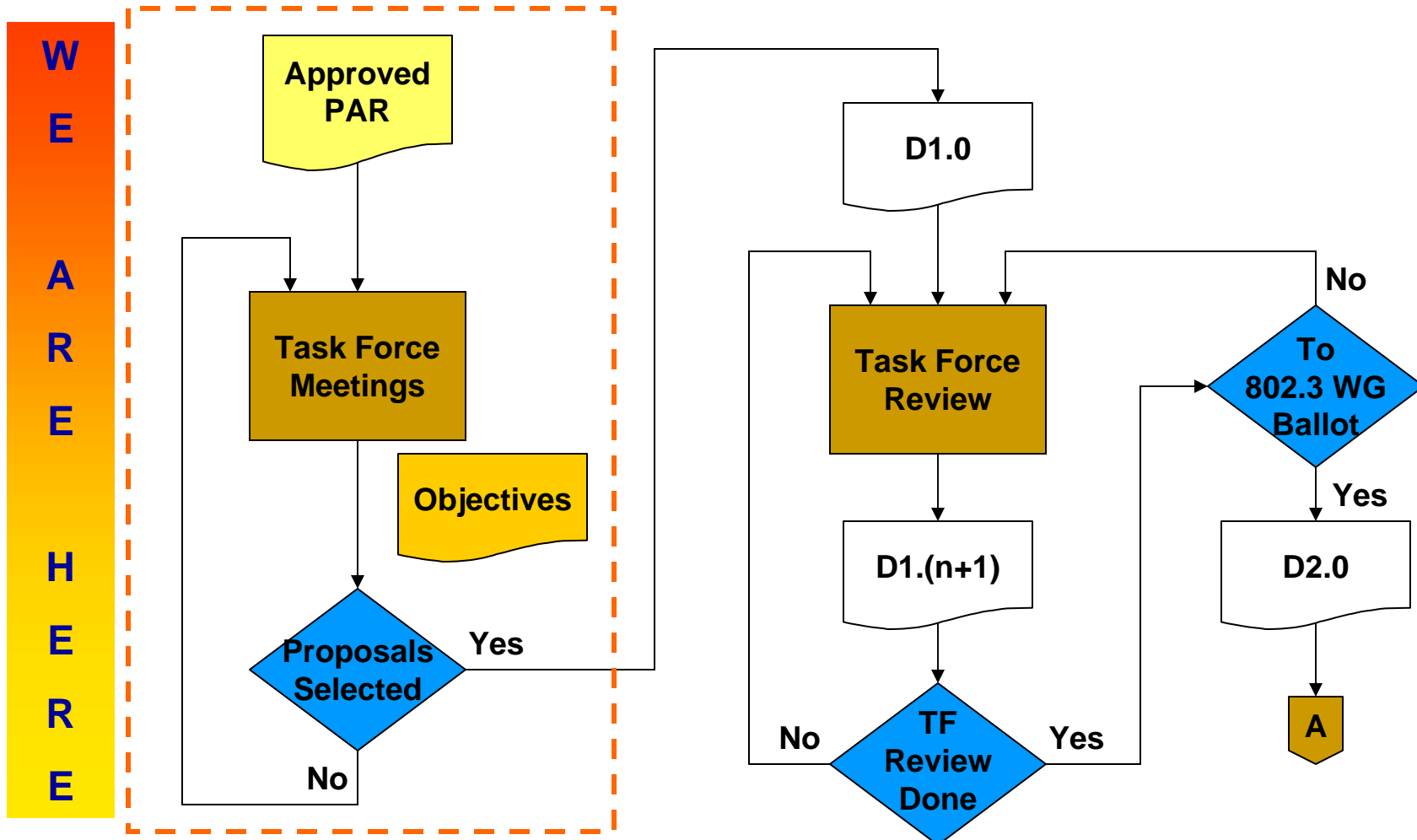
- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
 - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
 - **Don't discuss specific license rates, terms, or conditions.**
 - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.
 - Technical considerations remain 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.**

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

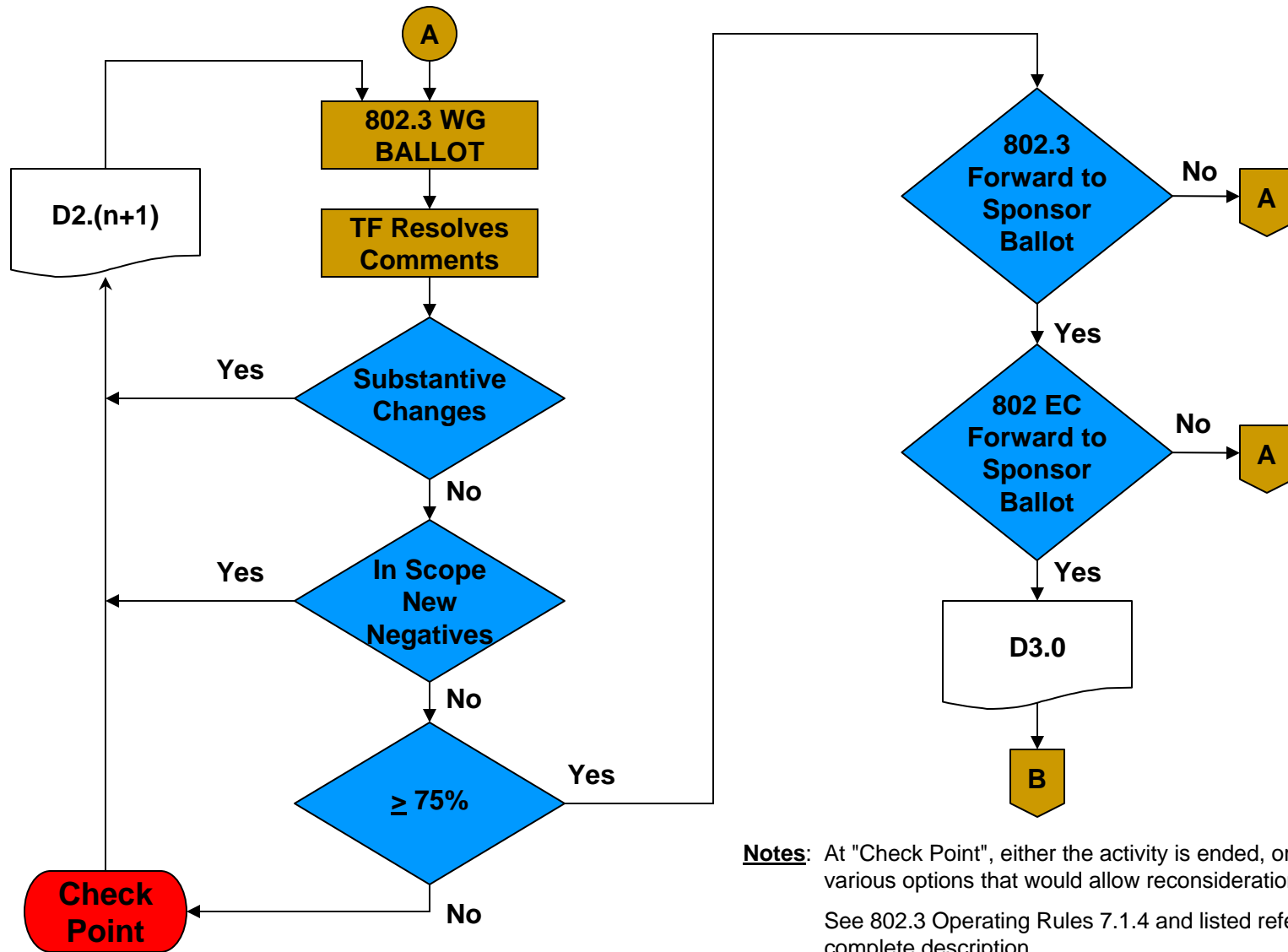
Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase



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

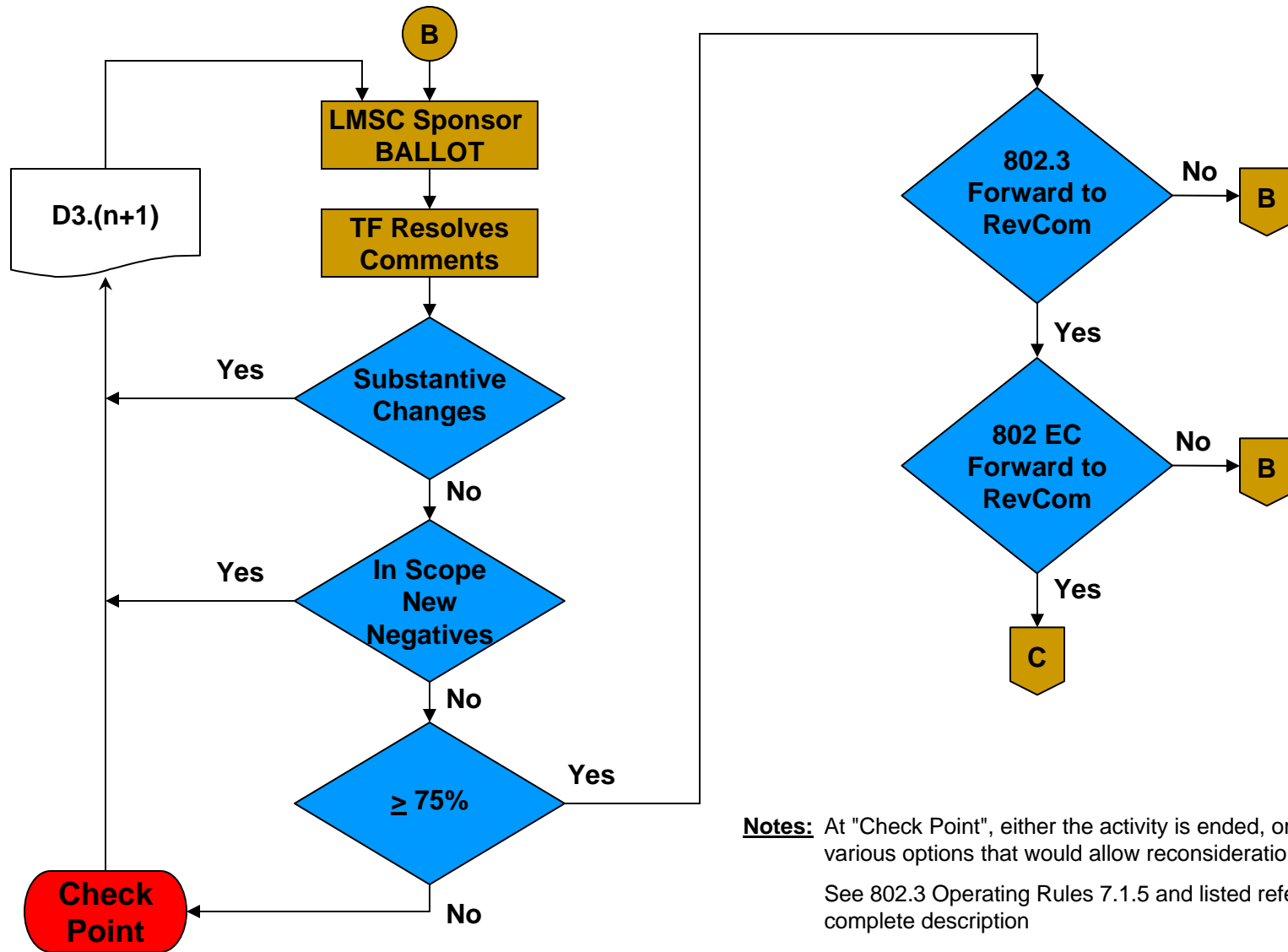


Overview of IEEE 802.3 Standards Process (3/5) - Working Group Ballot Phase



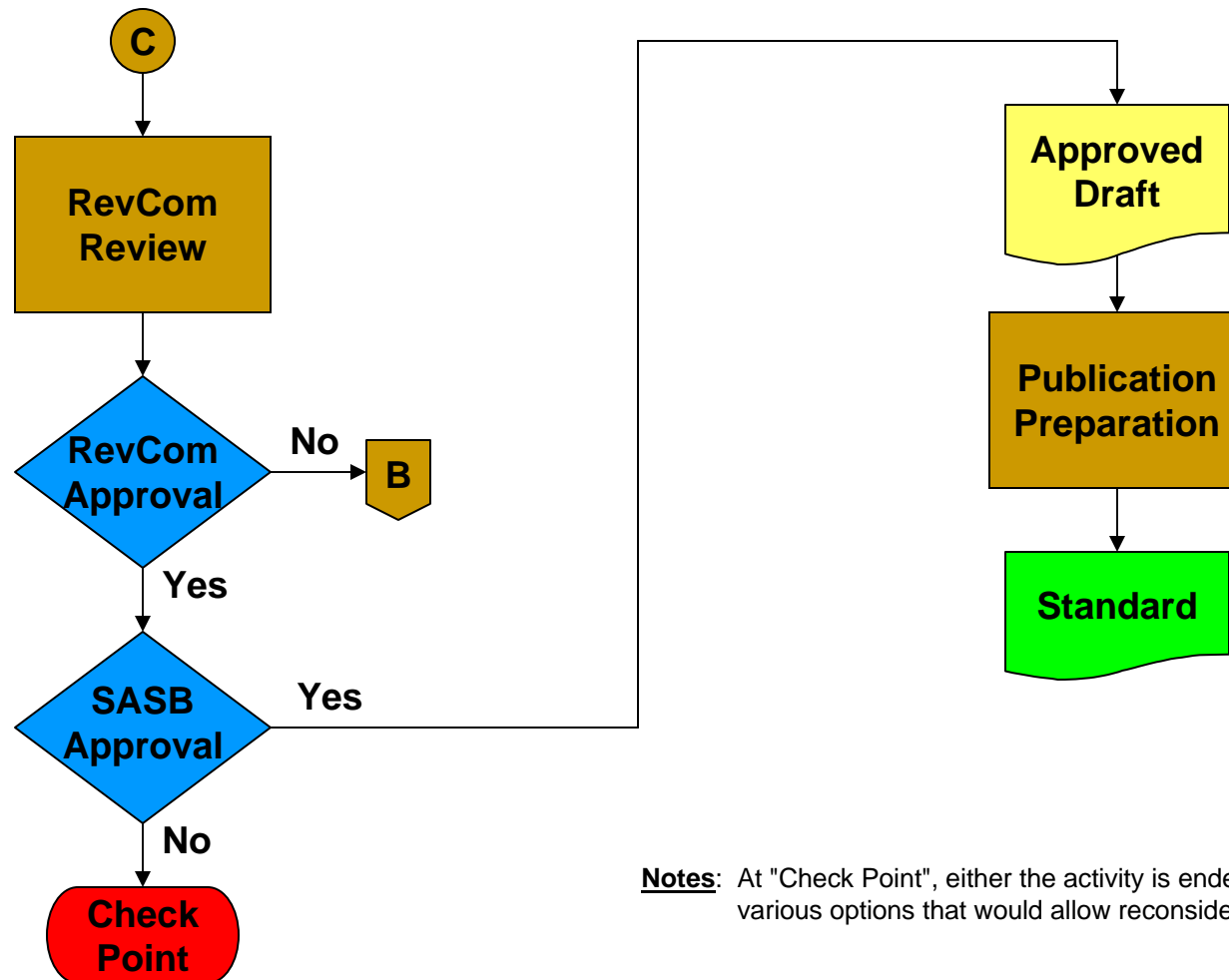
Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval. See 802.3 Operating Rules 7.1.4 and listed references for complete description

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



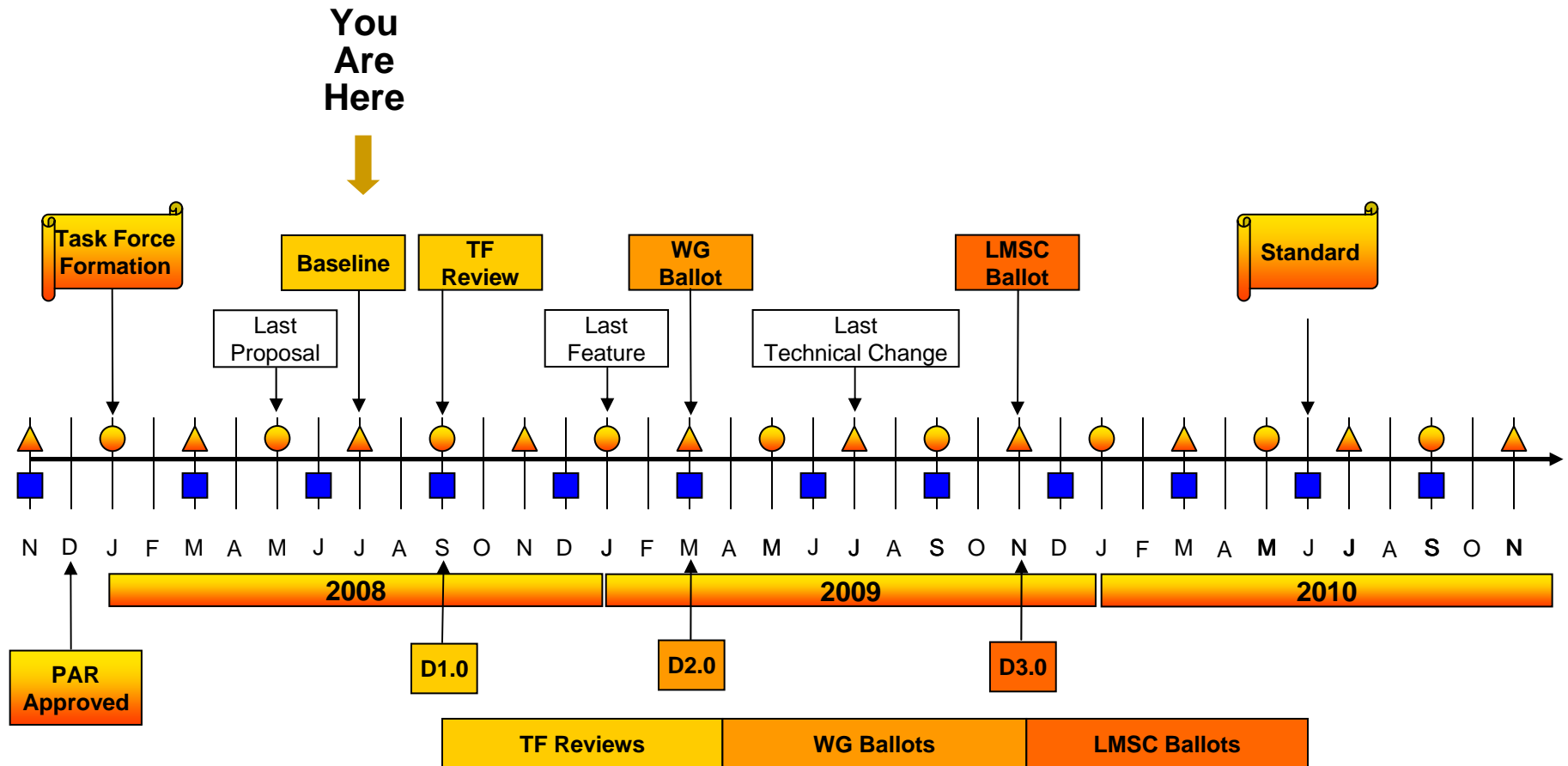
Notes: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval. See 802.3 Operating Rules 7.1.5 and listed references for complete description

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 reconsideration of the approval.

IEEE P802.3ba Task Force Timeline



* Adopted by IEEE P802.3ba TF at March 08 Plenary

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

Items to be Addressed (1 / 2)

- Last bullet, Slide 11, trowbridge_01_0508
 - “The mapping of 40G Base-?? signals into OPU3 (to be) specified in ITU-T Recommendation G.709 depends on the set of control block types shown in Figure xx-yy. Any change to the coding specified in Figure xx-yy must be coordinated with ITU-T Study Group 15.”
- May Interim Task Force Motion #8 as amended:
 - Move to adopt “trowbridge_01_0508.pdf” as the baseline for the “Appropriate support for OTN” with the inclusion of “and pending concurrence of the 802.3 working group” prior to the last bullet of slide 11.
- Generate liaison to ITU-T SG15 and get 802.3WG approval.

Items to be Addressed (2/2)

- Remaining Proposals to be adopted
 - PMA Sublayer
 - PMD Service interface
 - XLAUI / CAUI interface
 - 40G / 100G for >10m Cu Cable Objectives
 - 40G for >10km SMF objective
- Other Issues
 - FEC
 - Extended Reach over Parallel MMF Ad Hoc efforts
 - Dual Fiber over MMF Proposal for 40GbE
 - Informal Communication to OIF regarding CEI-25G SR?

Presentations – Tuesday, Jul 15

| Time | Presenter | Affiliation | Title | File Name |
|----------|-------------------------|----------------|---|----------------------------|
| 8:00 AM | | | Agenda and General Information | agenda_01_1107.pdf |
| 8:30 AM | Mark Gustlin | Cisco Systems | Chief Editor's Report | gustlin_01_0708.pdf |
| 8:50 AM | Mike Dudek | JDSU | T.11 Liaison | dudek_01_0708.pdf |
| 9:00 AM | Piers Dawe | Avago | Statistical Eye Ad Hoc | dawe_04_0708.pdf |
| 9:10 AM | John Petrilla | Avago | Extended Reach over Parallel Fiber Ad Hoc | petrilla_02_0708.pdf |
| 9:30 AM | Paul Kolesar | Systimax | OM4 standardization update | kolesar_01_0708.pdf |
| 9:50 AM | | | Break | |
| 10:05 AM | Mark Gustlin | Cisco Systems | Miscellaneous PCS Issues | gustlin_02_0708.pdf |
| 10:30 AM | Mark Gustlin | Cisco Systems | 40/100 GbE PCS/PMA Testing | gustlin_03_0708.pdf |
| 10:55 AM | Steve Trowbridge | Alcatel-Lucent | 100//40 GbE PMA Proposal | trowbridge_01_0708.pdf |
| 11:25 AM | Piers Dawe | Avago | FEC Update | dawe_02_0708.pdf |
| 11:45 AM | Magesh Valliappan | Broadcom | Clause 74 FEC and MLD interactions | valliappan_01_0708.pdf |
| 12:00 PM | | | Lunch | |
| 1:00 PM | Ralf-Peter Bruan | T-Systems | OTN Support - OAM Signaling | braun_01_0708.pdf |
| 1:20 PM | Dimitris Giannakopoulos | AMCC | 100GE/40GE skew budget for MLD | giannakopoulos_01_0708.pdf |
| 1:45 PM | Gary Nicholl | Cisco Systems | Distance requirements for XLAUI/CAUI and PMD Service Interfaces | nicholl_01_0708.pdf |
| 2:00 PM | Ali Ghiasi | Broadcom | XLAUI/CAUI Electrical Specification | ghiasi_01_0708.pdf |
| 2:25 PM | Ryan Latchman | Gennum | XLAUI / CAUI Measured Results | latchman_01_0708.pdf |
| 2:50 PM | | | Break | |
| 3:05 PM | Matt Traverso | Opnext | PMD Clocking Discussion | traverso_02_0708.pdf |
| 3:25 PM | John Petrilla | Avago | 40GBASE-SR4 & 100gBASE-SR10: PMD Service Interface Update | petrilla_01_0708.pdf |
| 3:55 PM | Piers Dawe | Avago | Compatibility of Different Port Types at a Big IC | dawe_03_0708.pdf |
| 4:25 PM | Mike Li | Altera | 40G/100G Implementations with 10G FPGA | li_01_0708.pdf |
| 4:45 PM | Chris DiMinico | MC | 802.3ba copper cable assembly baseline proposal | diminico_01_0708.pdf |
| 5:15 PM | Bob Thornton | Fujitsu | SFF-8470 (CX4) / Copper Concepts for 802.3ba | thornton_01_0708.pdf |
| 5:40 PM | | | Discussion / Straw Polls | |
| 6:00 PM | | | Break for Day | |

Note – Order of presentations and times listed are subject to change.

Presentations – Wed, Jul 16

| Time | Presenter | Affiliation | Title | File Name |
|----------|-----------------|---------------|--|------------------------|
| 8:00 AM | | | Opening Comments | |
| 8:05 AM | Piers Dawe | Avago | Comparison of options for 40 Gb/s PMD for 10 km duplex SMF and recommendations | dawe_01_0708.pdf |
| 8:35 AM | Matt Traverso | Opnext | 40GbE Serial for the 10km SMF objective | traverso_02_0708.pdf |
| 9:00 AM | Chris Cole | Finisar | 40GBASE-LR4 Specification Proposal | cole_03_0708.pdf |
| 9:25 AM | Chris Cole | Finisar | 40GE 10km SMF PMD Alternatives Historical Cost Comparison | cole_04_0708.pdf |
| 9:55 AM | | | Break | |
| 10:10 AM | Ali Ghiasi | Broadcom | Comparison of 4x10G vs Serial 40G | ghiasi_02_0708.pdf |
| 10:30 AM | Ryan Latchman | Gennum | 10km SMF 40GbE PMD Analysis | latchman_02_0708.pdf |
| 11:00 AM | Paul Gavrilovic | Cisco Systems | 40Gb Ethernet-SMF: Choice of 4x10Gb or Serial | gavrilovic_01_0708.pdf |
| 11:15 AM | | | Discussion / Straw Polls | |
| 11:40 AM | Thomas Paatzsch | Cube Optics | Compact Optical Multiplexers for LAN WDM | paatzsch_01_0708.pdf |
| 12:00 PM | | | Lunch | |
| 1:00 PM | Hideki Isono | Fujitsu | TDP estimation for 100GBASE-LR4 | isono_01_0708.pdf |
| 1:25 PM | Chris Cole | Finisar | Update to Adopted 100GE 10km SMF PMD Baseline | cole_01_0708.pdf |
| 1:50 PM | Chris Cole | Finisar | Update to Adopted 100GE 40km SMF PMD Baseline | cole_02_0708.pdf |
| 2:15 PM | Yuri Vandyshev | Finisar | 100GE 40km SMF PMD SOA-Receiver Performance | vandyshev_01_0708.pdf |
| 2:45 PM | | | Break | |
| 3:00 PM | Joerg Kropp | VI Systems | 40Gbit/s Transmission on OM3 Duplex fiber | kropp_01_0708.pdf |
| 3:30 PM | John Abbott | Corning | Extended Link Lengths on MMF | abbott_01_0708.pdf |
| 3:55 PM | Mike Bennett | LBNL | Update on IEEE P802.3az Energy Efficient Ethernet | bennett_03_0708.pdf |
| 4:40 PM | Mike Dudek | JDSU | Specifications for a linear system with 10G per lane to achieve 250m on OM3 | dudek_02_0708.pdf |
| 5:10 PM | | | Discussion / Straw Polls | |
| 6:00 PM | | | Break for Day | |

Note – Order of presentations and times listed are subject to change.

Presentations – Thurs, Jul 17

| Time | Presenter | Affiliation | Title | File Name |
|----------|-----------|-------------|--|-----------|
| 8:00 AM | | | Opening Comments | |
| 8:05 AM | | | Discussion & Motions | |
| 10:00 AM | | | Break | |
| 10:15 AM | | | Discussion, Motions and Closing Business | |
| 12:00 PM | | | Adjourn | |

Note – Order of presentations and times listed are subject to change.

Meeting Map

| | Mon | Tues | Wed | Thur | Fri |
|-------|---------------|-------------|--------|----------------------------------|-----|
| 8:00 | SEC | All | All | All - Motions & Closing Business | |
| 8:30 | | | | | |
| 9:00 | | | | | |
| 9:30 | | | | | |
| 10:00 | | | | | |
| 10:30 | | | | | |
| 11:00 | 802.0 Plenary | | | | |
| 11:30 | | | | | |
| 12:00 | Lunch | Lunch | Lunch | Lunch | |
| 12:30 | | | | | |
| 13:00 | 802.3 Plenary | All | All | 802.3 Plenary | SEC |
| 13:30 | | | | | |
| 14:00 | | | | | |
| 14:30 | | | | | |
| 15:00 | | | | | |
| 15:30 | | | | | |
| 16:00 | | | | | |
| 16:30 | | | | | |
| 17:00 | | | | | |
| 17:30 | | | | | |
| 18:00 | Dinner | Break | Dinner | | |
| 18:30 | Tutorial #1 | Tutorial #3 | Social | | |
| 19:00 | | | | | |
| 19:30 | | | | | |
| 20:00 | Tutorial #2 | Tutorial #4 | | | |
| 20:30 | | | | | |
| 21:00 | | | | | |
| 21:30 | | | | | |

IEEE-SA Meeting Attendance Tool

- http://iee802.org/3/minutes/jul08/0708_attendance_tool.pdf

Voting privileges

- The rules regarding obtaining and maintaining that privilege are found here:
<http://www.ieee802.org/3/rules/member.html>

- To become a voter:
 - Complete and current contact information recorded in the Working Group 802.3 database.
 - You must attend and sign attendance book for at least 75% of sessions of two 802.3 WG plenary meetings (within the last four)
 - Full attendance at a two-day 802.3 WG Interim can be substituted for one Plenary
 - Request to become a voter during the opening or closing Plenary meeting when solicited by the Chair from the “potential voters list”

- To remain a voter
 - Maintain Complete and current contact information in the Working Group 802.3 database.
 - Have 75% attendance during at least two of the last four plenaries
 - Attendance at an interim can substitute for attendance at no more than 1 plenary
 - Participate in Working Group ballots.
 - You can be dropped for lack of participation !

Remember to Declare Your Affiliation

- From the IEEE SA Standards Board By-laws

- **5.2.1.5 Disclosure of affiliation** (<http://standards.ieee.org/guides/bylaws/sect5.html#5.2.1.5>)

- Every member and participant in a working group, Sponsor ballot, or other standards development activity shall disclose his or her affiliation. An individual is deemed "affiliated" with any individual or entity that has been, or will be, financially or materially supporting that individual's participation in a particular IEEE standards activity. This includes, but is not limited to, his or her employer and any individual or entity that has or will have, either directly or indirectly, requested, paid for, or otherwise sponsored his or her participation. Failure to disclose every such affiliation may result in complete or partial loss of rights to participate in IEEE-SA activities. An individual is not excused from compliance with this policy by reason of any claim of a conflicting obligation (whether contractual or otherwise) that prohibits disclosure of affiliation.

- From the IEEE SA Standards Board Operations Manual

- **5.3.3.1 Disclosure of affiliation** (<http://standards.ieee.org/guides/opman/sect5.html#5.3.3.1>)

- Each participant's affiliation shall be disclosed at any working group or project meeting. The chair or the chair's delegate shall inform the meeting of the requirement for disclosure of affiliation (see [5.2.1.5](#) of the *IEEE-SA Standards Board Bylaws*). This shall be via a sign-in (e.g., sign-in sheet, electronic sign-in, verbal disclosure, or electronic communication) that provides for disclosure of employer and any other affiliation, a reminder of the definition of affiliation, and possible penalties for non-compliance.

Whenever an individual is aware that the ownership of his or her employer or other affiliation may be material to the process, or when the Sponsor or the IEEE-SA Standards Board requests, that individual shall also declare the "ultimate parent entity" of their affiliation. The ultimate parent entity is an entity that directly or indirectly, through one or more intermediaries, controls the entity identified as the individual's affiliation. For the purposes of this definition, the term "control" and its derivatives, with respect to for-profit entities, means the legal, beneficial or equitable ownership, directly or indirectly, of more than fifty percent (50%) of the capital stock (or other ownership interest, if not a corporation) of an entity ordinarily having voting rights. "Control" and its derivatives, with respect to nonprofit entities, means the power to elect or appoint more than fifty percent (50%) of the Board of Directors of an entity.

- **5.3.3.2 False or misleading disclosure** (<http://standards.ieee.org/guides/opman/sect5.html#5.3.3.2>)

- A meeting attendee who fails to disclose affiliation shall not accrue any membership rights, including rights of or towards voting membership, until such disclosures have been made. The chair shall review the adequacy of disclosures. Failure to disclose affiliation, or materially false or misleading disclosure of affiliation, shall result in loss of membership privileges and may also result in loss of other participation privileges within the IEEE-SA for such participants and any affiliated entities

Future Meetings

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

- Sept 2008 Interim
 - Hosted by LG / Nortel
 - Sept 15 - 19
 - Seoul, Korea
- Nov 2008 Plenary
 - Nov 10 – 13
 - Hyatt Regency Dallas at Reunion
 - Dallas, Tx, USA



Thank You!

