

Agenda and General Information

IEEE 802.3

10 Mbps Single Pair Ethernet Study
Group

George Zimmerman (Acting Chair)

CME Consulting, Inc.

Fort Worth, Texas, USA, 12 Sept. 2016

Agenda

- Appointment of Recording Secretary
- Confirmation of Chair
- Welcome and Introductions
- Approve Agenda
- (no prior minutes to approve)
- 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

Study Group Decorum



- Photography or recording by permission only (December 2014 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 2014 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

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Goals for the meeting

- Develop a set of objectives for the project
- Develop responses for the CSD (Criteria for Standards Development)
- Develop a PAR
- Review presentations substantiating the above
- Lay the ground work for the next meeting

Big ticket items

- Same as the goals
- Objectives, CSD and PAR
- Lay the ground work for the next meeting

Reflector and Web

- To subscribe to the 10 Mbps Single Pair Ethernet reflector, send an email to: ListServ@ieee.org

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

subscribe STDS-802-3-10SPE <yourfirstname> <yourlastname>

end

- Send 10 Mbps Single Pair Ethernet reflector messages to:
[STDS-802-3-10SPE @listserv.ieee.org](mailto:STDS-802-3-10SPE@listserv.ieee.org)
- Study Group web page URL:
<http://www.ieee802.org/3/10SPE/index.html>

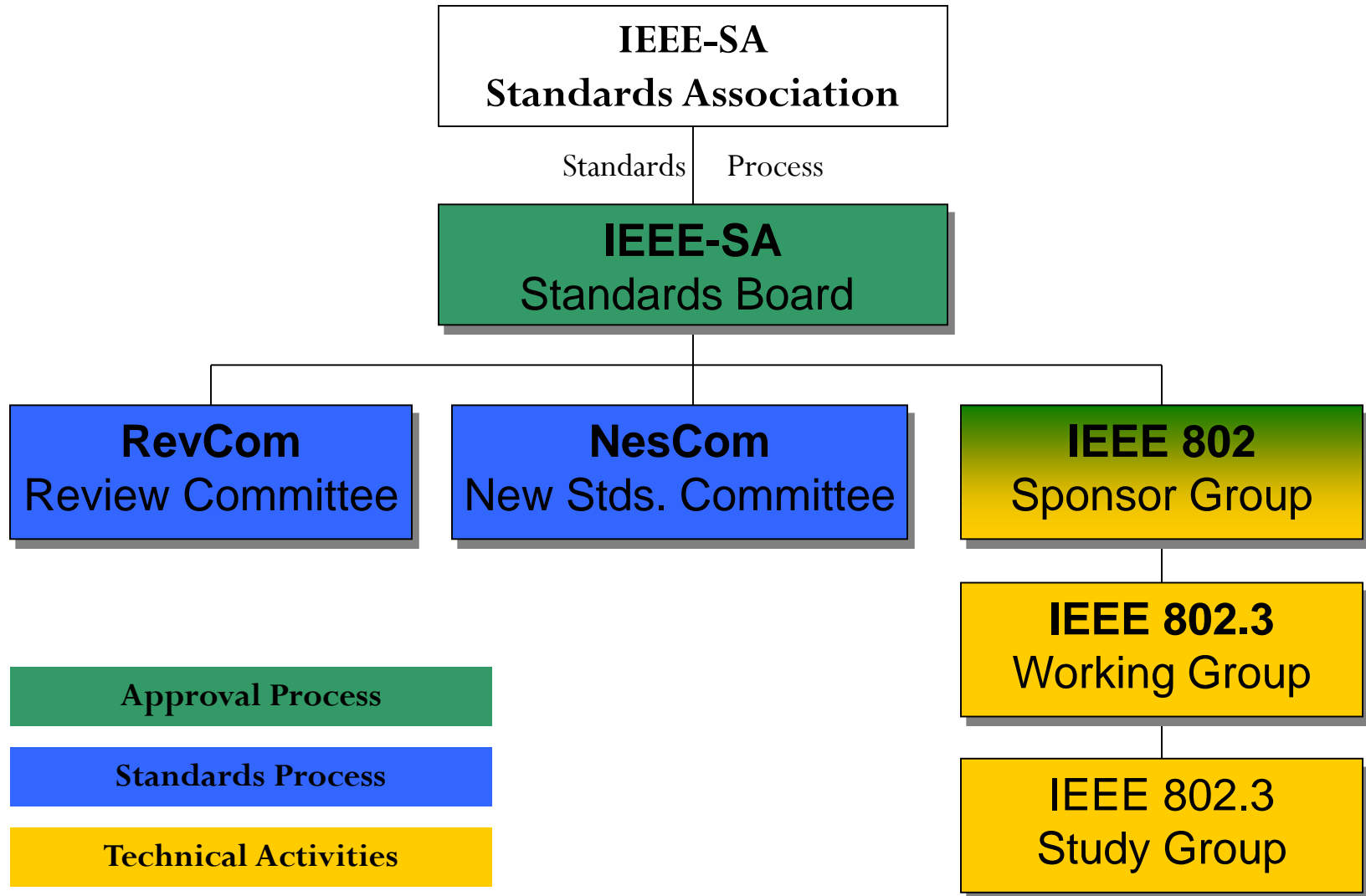
Study Group Private Area

- We currently have NO Study Group private area.
- Should we have one, the username and password will be shown at the face-to-face meetings only, and not be in the posted slides.
- If we receive copyrighted material, for example, specs from another SDO, we would establish a study group private area.

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

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**
<http://standards.ieee.org/about/sasb/audcom/pnp/LMSC.pdf>
- **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

Guidelines for IEEE-SA Meetings

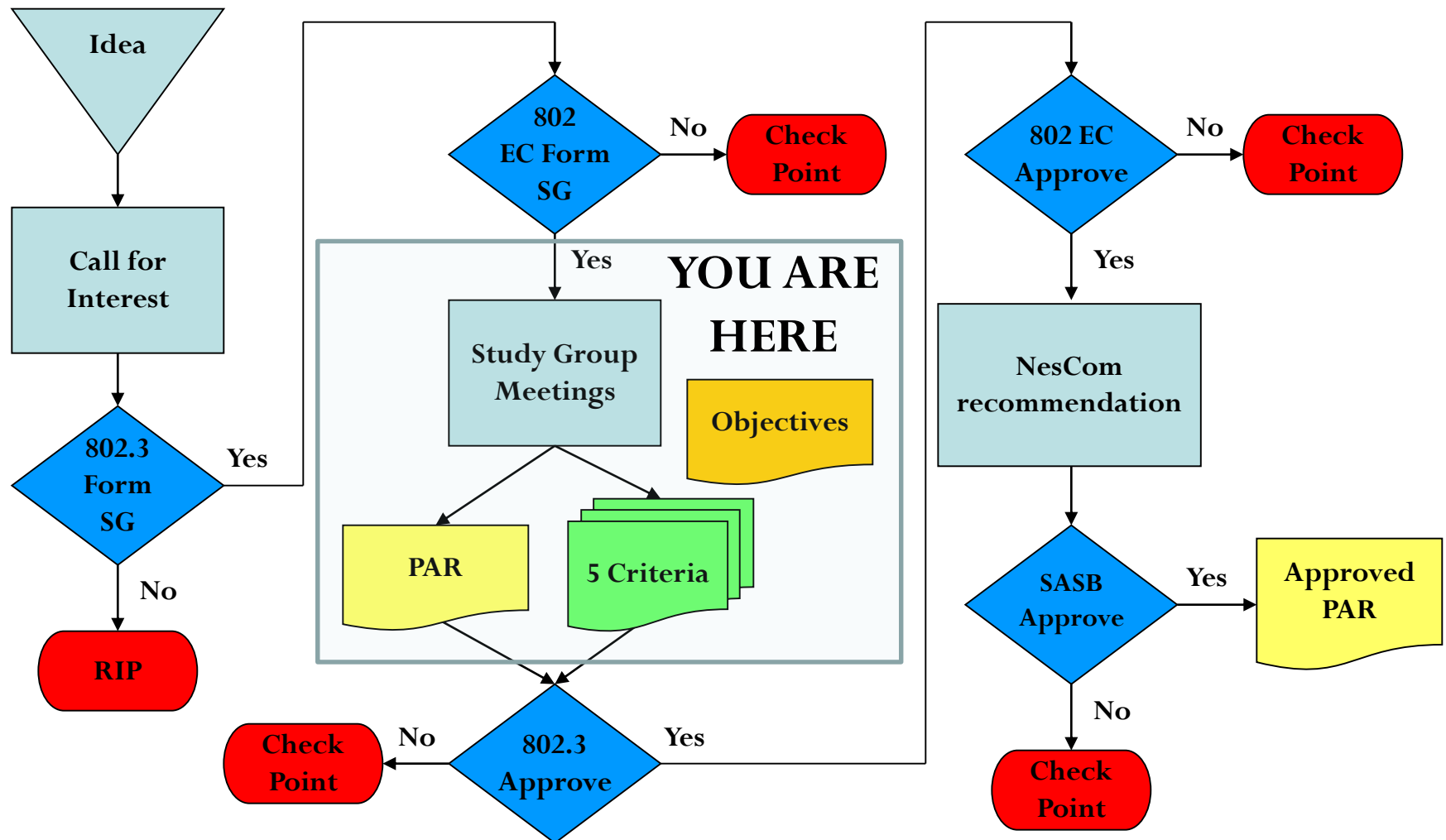
- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
- **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
- **Don't discuss specific license rates, terms, or conditions.**
 - Relative costs, 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.**

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

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.

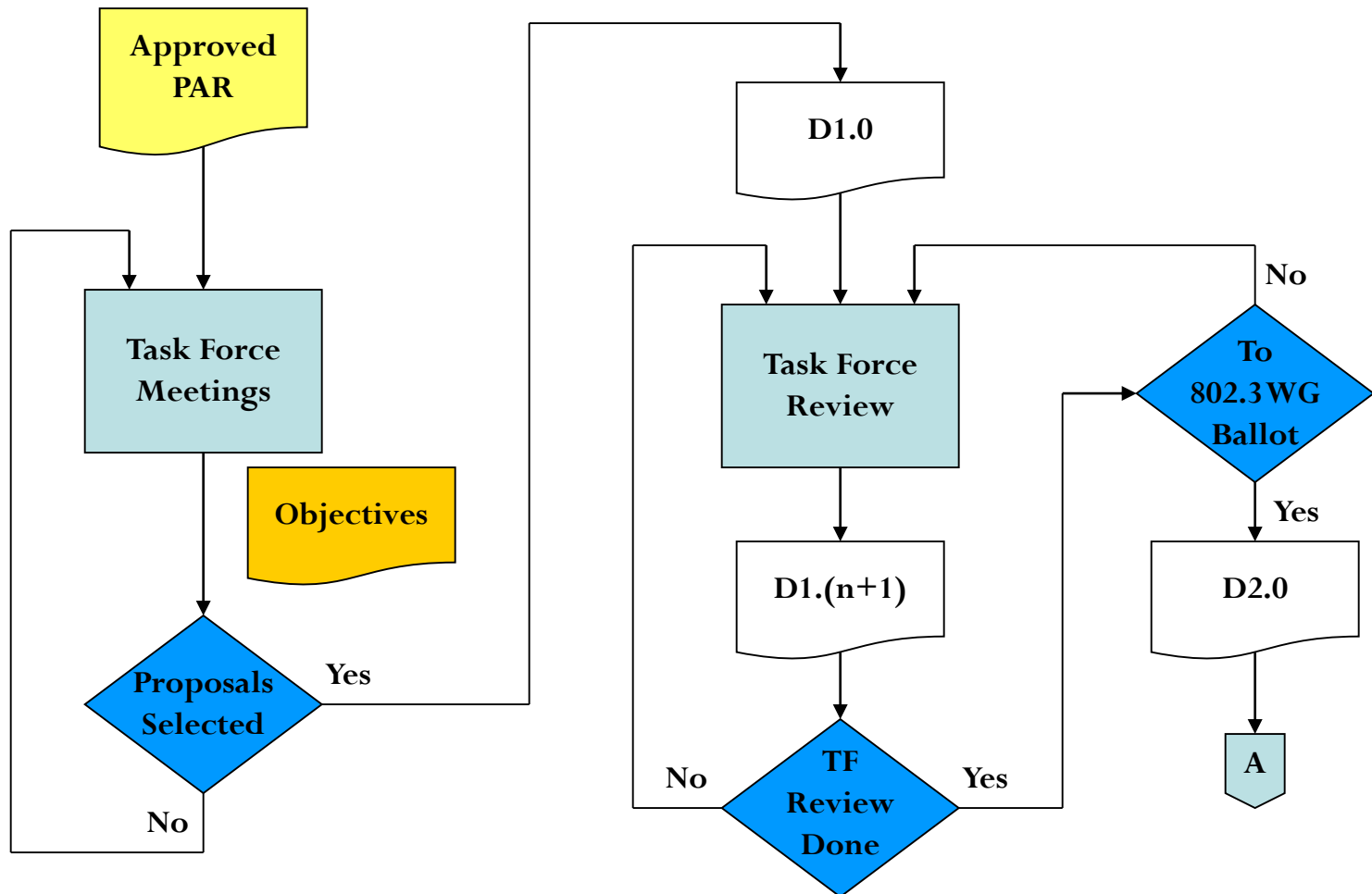
This slide set is available
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/preparslides.ppt>

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

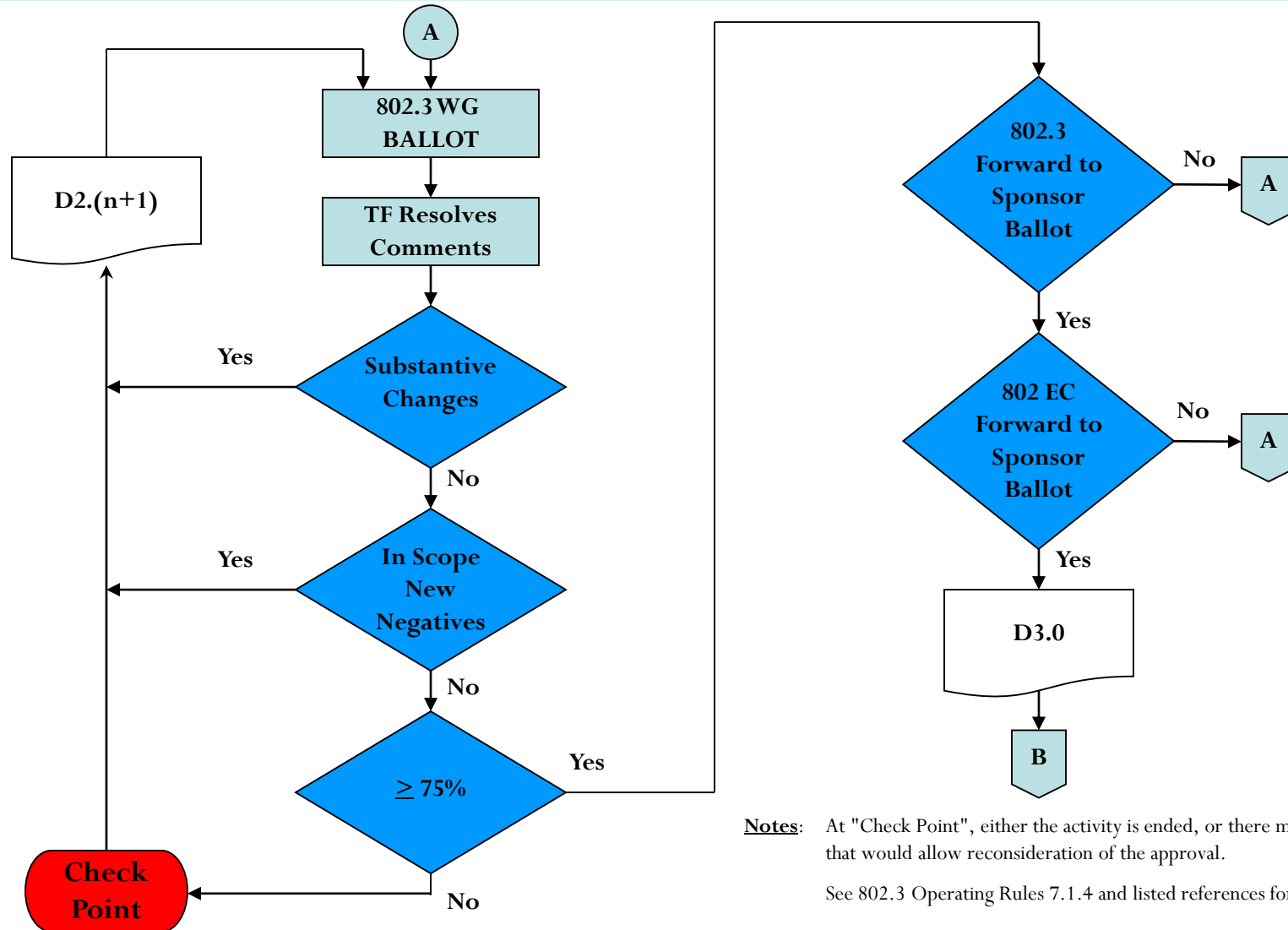


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



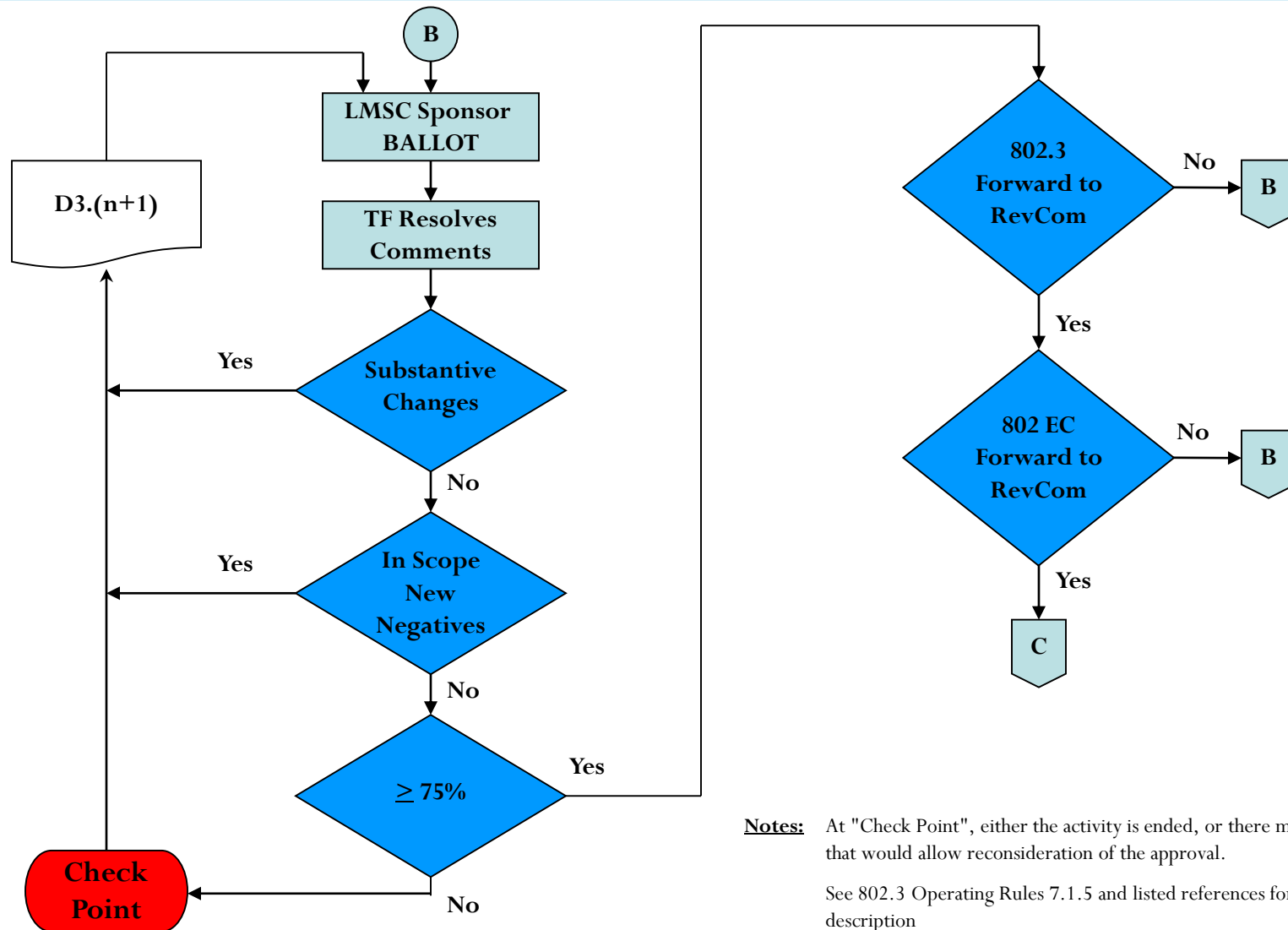
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

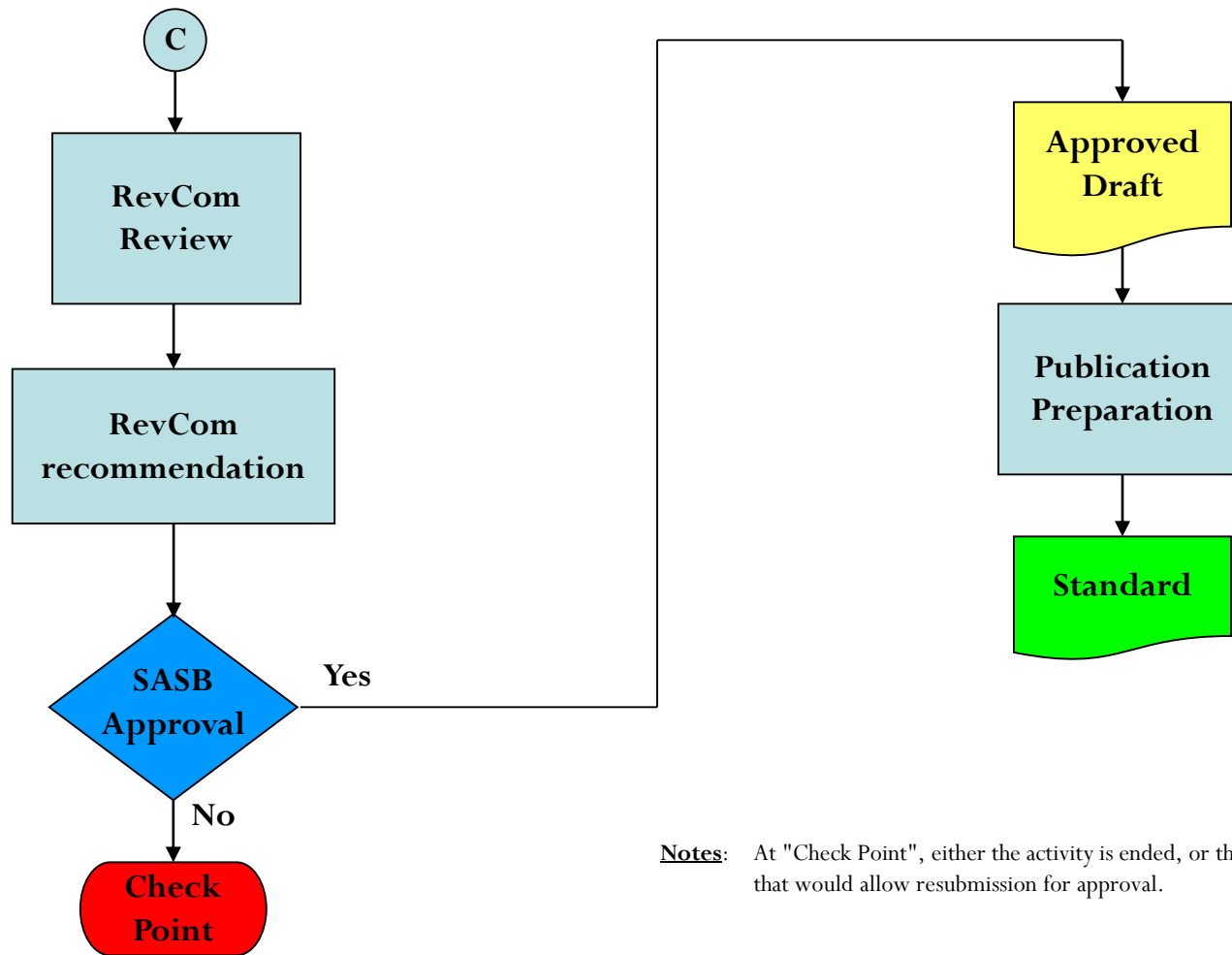
Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



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.

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.

Request for Formation of Study Group (as per July 2016 Plenary Motion)

- Move that the IEEE 802.3 Working Group request the formation of a Study Group to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for 10Mb/s Single Twisted Pair Ethernet including optional power.

Crash course on Study Group goals

For an overview of Study Group activities, please refer to:

Overview of the Process – Wael Diab

http://www.ieee802.org/3/400GSG/public/13_05/diab_400_01_0513.pdf

Review of the 5 Criteria – Howard Frazier

http://www.ieee802.org/3/400GSG/public/13_05/frazier_400_01_0513.pdf

Guidelines for Project Objectives – Howard Frazier

http://www.ieee802.org/3/400GSG/public/13_05/frazier_400_02_0513.pdf

The following slides are adapted from these excellent presentations.
The originals, while a little dated, remain, in spirit, correct.

(THANKS TO MARK NOWELL and the 25Gbps Study Group)

What does the Study Group Produce?

- PAR
 - Our “contract” with the IEEE-SA and “authorization” to develop a standard
 - Goes all the way up the hierarchy
 - Broadly focuses on what the standard is that group will work on including scope, purpose, broad timeline (not a project plan)
 - High level - to notify anyone interested as to what we’re attempting to do
- 5 Criteria (now called CSDs)
 - Broad Market Potential, Compatibility, Distinct Identity, Technical Feasibility, Economic Feasibility
 - Controlled at the 802 EC level
- Objectives
 - Our “contract” with 802.3 – controlled at the 802.3 level

History and Traditions

(adapted from Howard Frazier “Guidelines for Project Objectives”)

- Project objectives are brief statements, usually bullet form that summarize technical objectives for an 802.3 standards project
- They represent high-level technical requirements
- They are created by the study group, but approved and owned by the 802.3 working group, and are fulfilled by the Task Force
 - Working group ballot drafts may be measured on fulfilling these
 - The objectives may be modified in Task Force, but the working group must approve
- They are not a product spec
- They typically address major characteristics: bit rate, media, reach, BER, compatibility, impairments, coexistence
- They do not typically address implementation characteristics (power, cost, integration)

Guidelines for writing and adopting

- Consensus building is key
 - Get support before you offer a motion
 - Understand the sources of opposition
 - Remember, 25% can block
- We may consider objectives one at a time, or as a group, if there is no objection
- Pay attention to specifics – that is where consensus can fall apart

Criteria for Standards Development

- These are used at the 802.3 level to filter out projects which are not appropriate for 802 standardization
- We will review the detail of these later, see
 - [CSD Working Draft presentation](#)

Liaisons and Communications

- (none at this time)

Action Items

- (to be filled in at end of meeting)

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

Presentations (times subject to change)

| Title | Presenters(s) | Affiliation(s) | Approx Time |
|--|--|--|-------------|
| Agenda | George Zimmerman, Acting Chair, 10SPE Study Group | CME Consulting/Commscope, LTC, Aquantia | 8:30-9AM |
| Ad hoc report | Peter Jones | Cisco Systems | 9-9:15 |
| General Market Requirements (expect morning break here) | | | |
| Process Industry Requirements | Steffen Graber | Pepperl+Fuchs | 10:30-10:50 |
| Automotive Requirements for 10SPE | Kirsten Matheus and Stefan Buntz | BMW and Daimler | 10:50-11:15 |
| 10BASE-T1 for Connected Lighting | Matthias Wendt, Lennart Yseboodt, Oscar Deurloo | Philips Lighting | 11:15-11:40 |
| Legacy Industrial Protocols | Robert Voss | Panduit | 11:40-11:50 |
| Link Segment (expect lunch break before) | | | |
| Cabling in non-automotive applications | Bernd Horrmeier | Phoenix Contact | 1:15-1:45 |
| Considerations for Link Segment 10 Mbs SPE Specifications | Chris DiMinico | MC Communications/Panduit | 1:45-2:05 |
| Preliminary Cable Properties | Steffen Graber | Pepperl+Fuchs | 2:05 -2:20 |
| Channel Framework for 10SPE Automotive Point-to-Point | Ahmad Chini and Stefan Buntz | Broadcom Limited and Daimler | 2:20-2:45 |
| PHY Feasibility and Objectives (expect afternoon break before) | | | |
| Objectives affecting PHY design choices for 10SPE | Ahmad Chini | Broadcom Limited | 3:30-3:50 |
| Feasibility Framework for 10BASE-T1 | Jay Cordaro, Ahmad Chini | Broadcom Limited | 3:50-4:10 |
| PHY Feasibility: The impact of signaling approach on power and area | Claude Gauthier | OmniPHY | 4:10-4:30 |
| Thoughts on low-pin-count low-power media independent interface | Jay Cordaro, Pat Thaler | Broadcom Limited | 4:30-4:50 |
| Implementation Thoughts – Proof of Concept | Steffen Graber | Pepperl+Fuchs | 4:50-5:10 |
| IEEE 802.3 10 Mb/s single twisted pair Ethernet for Process Industry | Harald Mueller | Endress + Hauser | 5-5:15 |
| (END OF DAY ONE - MONDAY) | | | |

Presentations (times subject to change)

| Title | Presenters(s) | Affiliation(s) | Approx Time |
|--|--------------------------------|------------------------------|-------------|
| Introductions and Opening | George Zimmerman, Acting Chair | CME Consulting, Inc. | 8:30-8:45AM |
| Powering | | | |
| Optional Powering based on PoDL for 10SPE | Andy Gardner | LTC | 8:45-9:15AM |
| General – Tech Feasibility Related | | | |
| Support for optional bus topology in 10SPE | Ahmad Chini | Broadcom Limited | 9:15-9:40 |
| Industrial Automation Bus Topology | David Brandt | Rockwell Automation | 9:40-10 |
| Working Sessions on Output (TUESDAY UNTIL END) | | | |
| Reflections of the Ad Hoc Chair | Peter Jones | Cisco Systems | 11-11:15 |
| Working Session for drafting PAR | George Zimmerman/David Law | CME Consulting, HPE | 11:15-12 |
| Proposal for 10SPE Automotive Objectives | Mehmet Tazebay | Broadcom Limited | 11:15-11:45 |
| Proposal for 10SPE Industrial Objectives | David Brandt | Rockwell Automation | 11:45-12:15 |
| Working session for drafting CSDs: | George Zimmerman | CME Consulting, Acting Chair | 1:30-3 |
| Potential Liaisons (placeholder) | George Zimmerman | CME Consulting, Acting Chair | 3-3:30 |
| MOTION MADNESS & ADJOURNMENT | | | 3:30-5 |
| END OF DAY TUESDAY: 6PM | | | |

Note: Agenda revised to move PAR drafting earlier to accommodate Mr. Law's schedule

Future Meetings

- See: <http://www.ieee802.org/3/interims/index.html>
- November 2016 802 Plenary
 - San Antonio, Texas, USA (Grand Hyatt San Antonio)
 - November 6-11, 2016
- January 2017 802.3 Interim
 - Huntington Beach, California (Waterfront Beach Hilton)
 - January 9-13, 2017
- March 2017 802 Plenary
 - Vancouver, BC Canada (Hyatt Regency/Fairmont Vancouver)
 - March 12-17, 2017
- Anyone interested in hosting a interim meeting contact me or the IEEE 802.3 Executive Secretary [Steve Carlson](#).

Thank You!