

# 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

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- 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

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- 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

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- 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

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

# Reflector and Web

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- To subscribe to the 10 Mbps Single Pair Ethernet 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-802-3-10SPE <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

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- 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.

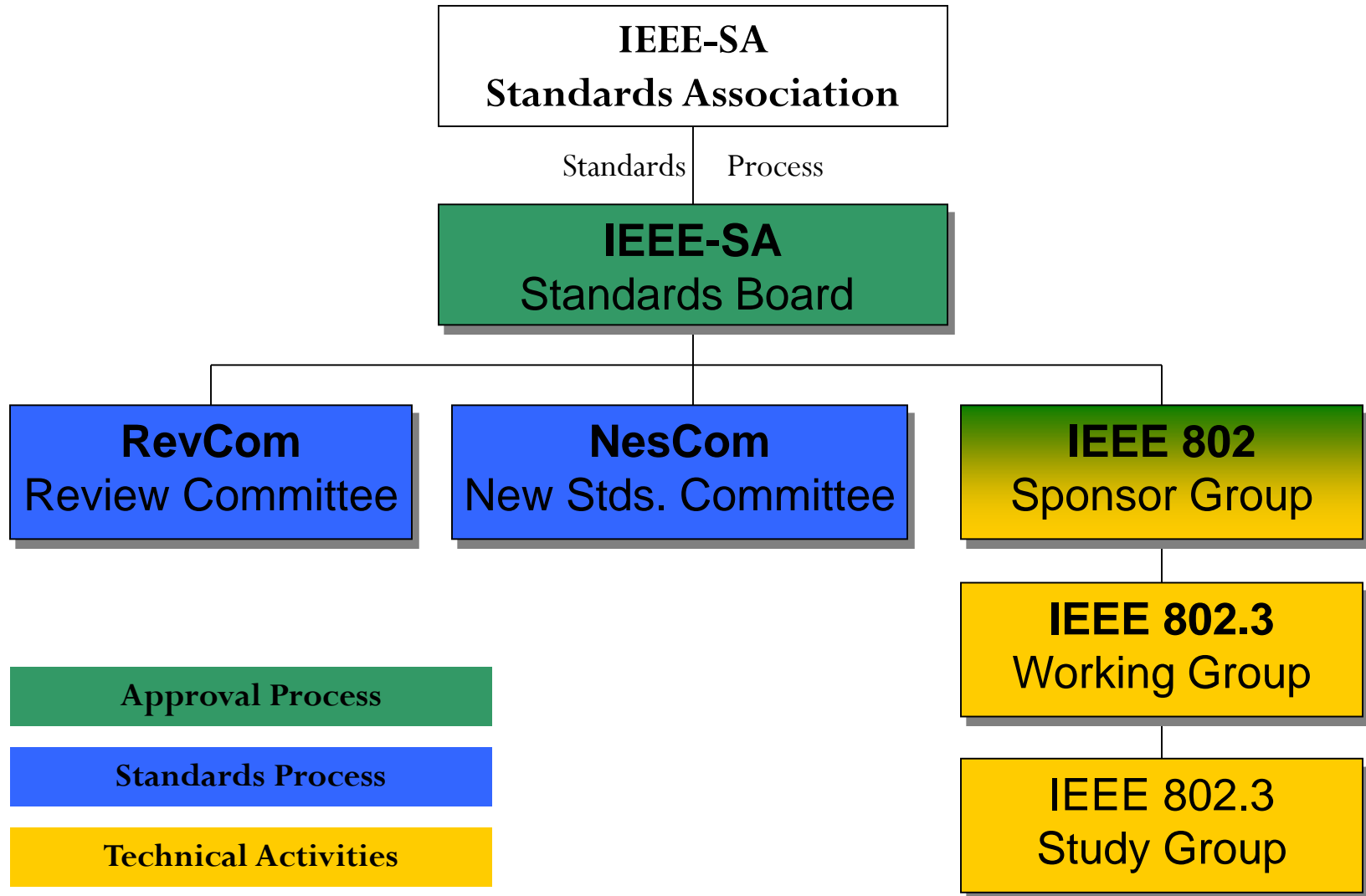


# Ground Rules

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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

# 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**  
<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](http://ieee802.org/3/rules/P802_3_rules.pdf)

# **Guidelines for IEEE-SA Meetings**

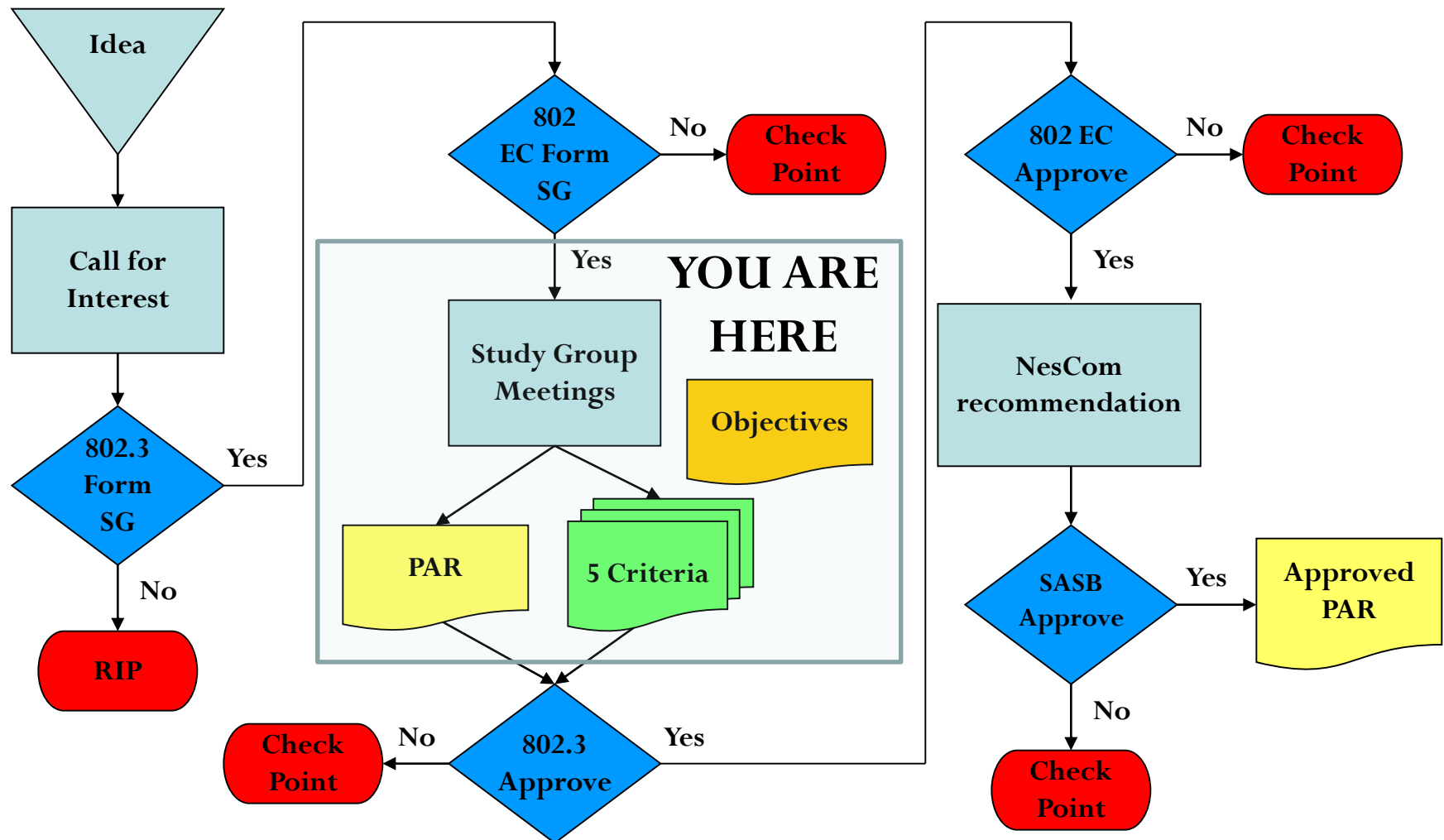
- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
- Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
- Don't discuss specific license rates, terms, or conditions.
  - Relative costs,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

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

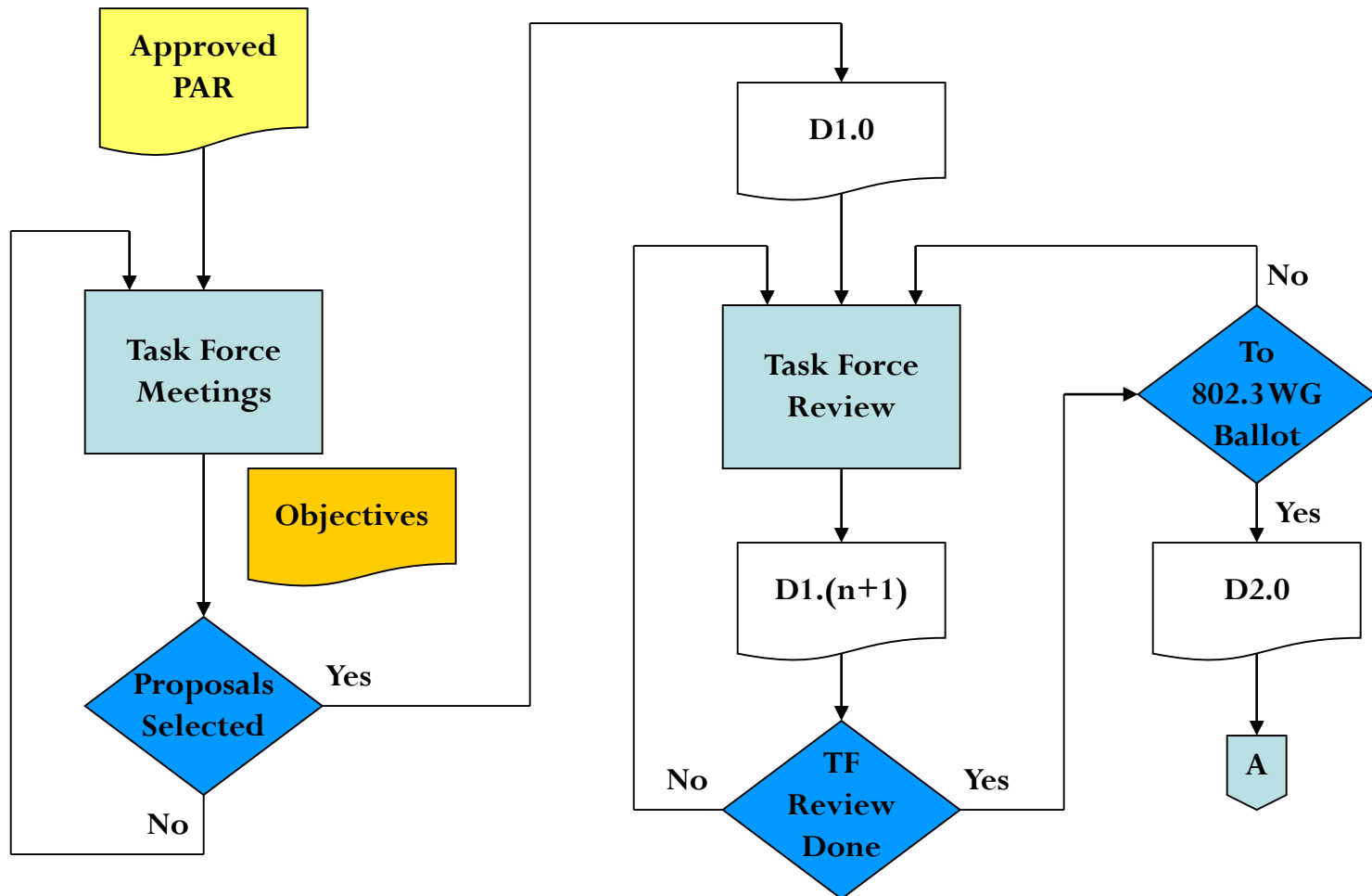
This slide set is available  
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/preparslides.ppt>

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

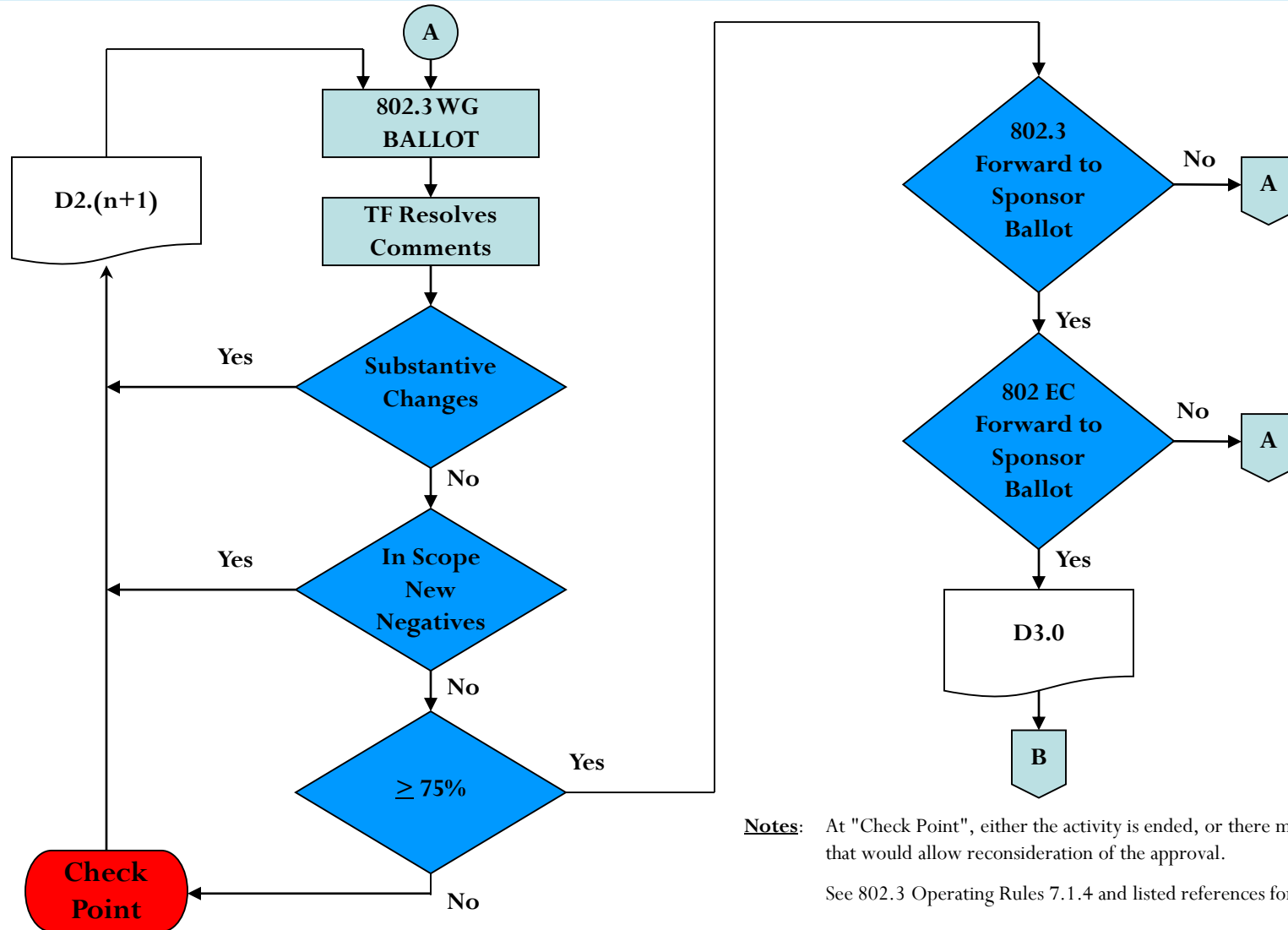


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



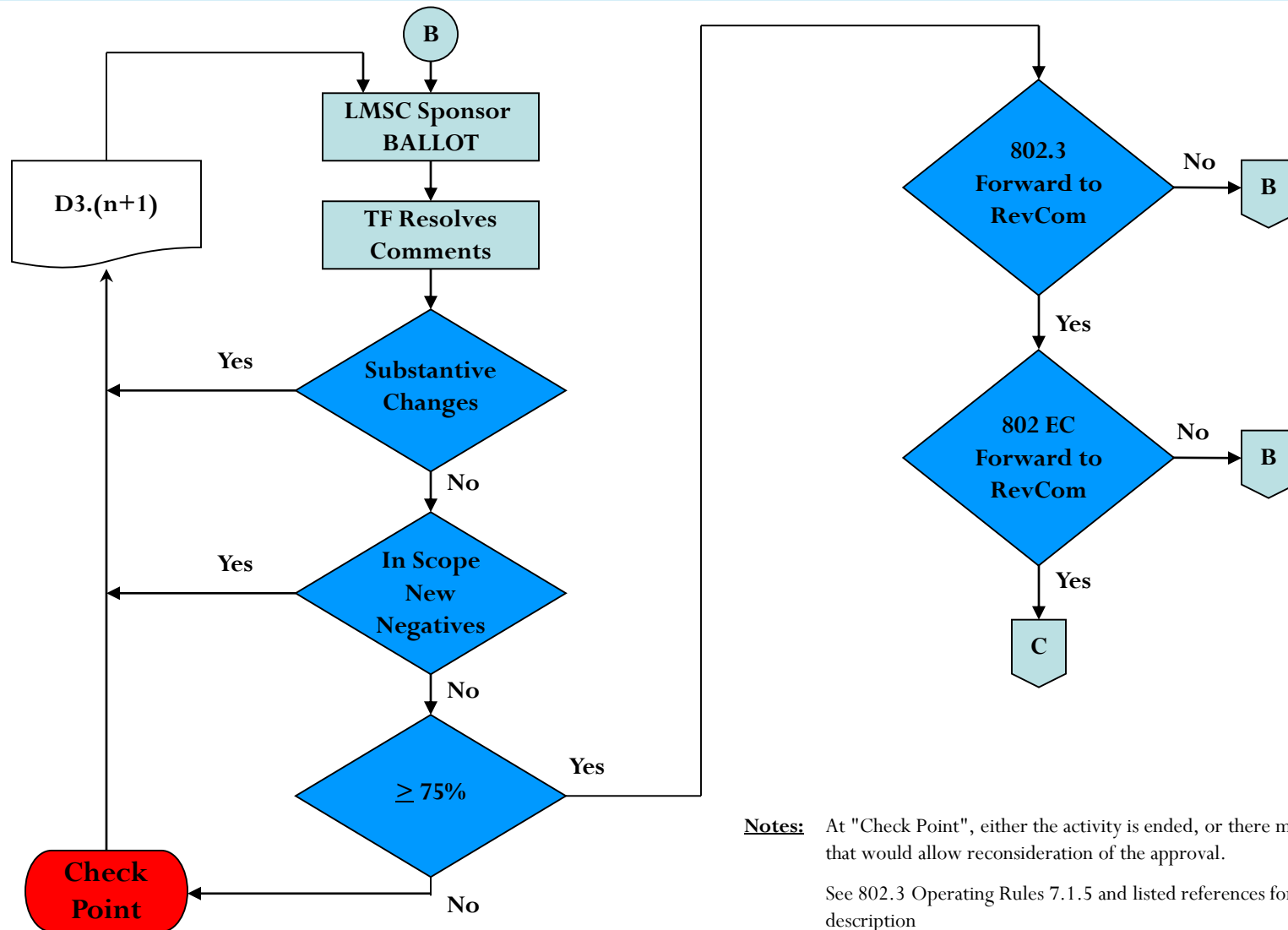
# Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



**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

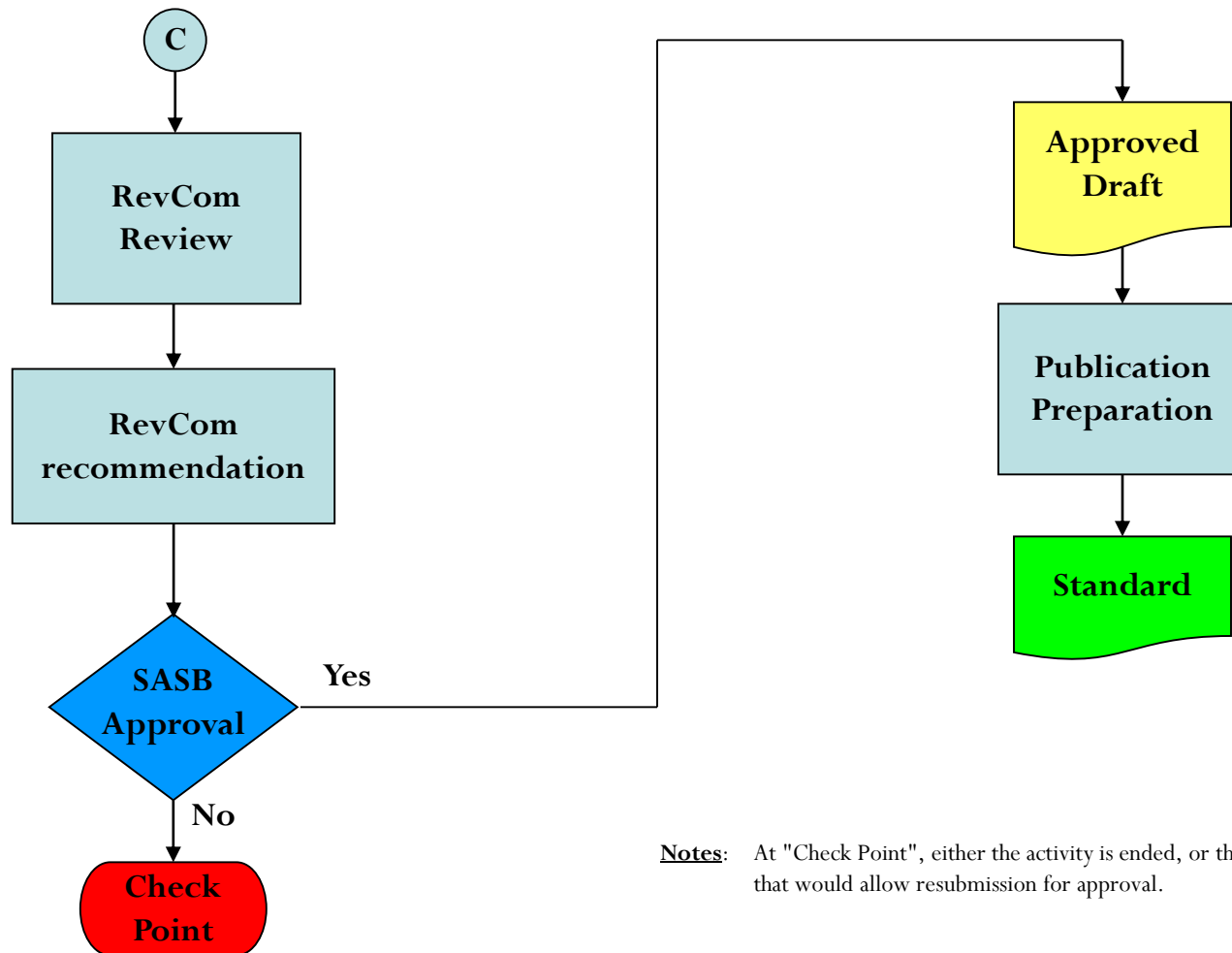


**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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

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- 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)

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- 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

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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](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](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](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?

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- 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

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(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

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- 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

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- 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

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- (none at this time)

# Action Items

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- (to be filled in at end of meeting)

# 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

# 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
EXPECTED BREAK FOR MONDAY - HARD STOP 5:30PM			

# Presentations (times subject to change)

Title	Presenters(s)	Affiliation(s)	Approx Time
Introductions and Opening	George Zimmerman, Acting Chair	CME Consulting, Inc.	8:00-8:30AM
Powering			
Optional Powering based on PoDL for 10SPE	Andy Gardner	LTC	8:30-9AM
General – Tech Feasibility Related			
IEEE 802.3 10 Mb/s single twisted pair Ethernet for Process Industry	Harald Mueller	Endress + Hauser	9:00-9:30
Support for optional bus topology in 10SPE	Ahmad Chini	Broadcom Limited	9:30-10
Industrial Automation Bus Topology	David Brandt	Rockwell Automation	10-10:30
Working Sessions on Output (TUESDAY UNTIL END)			
Reflections of the Ad Hoc Chair	Peter Jones	Cisco Systems	11-11:15
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 PAR and CSDs: PAR Questions 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			

# Future Meetings

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- 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](#).

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# Thank You!