Agenda and General Information

IEEE P802.3bq 40GBASE-T Task Force
25GBASE-T Study Group

David Chalupsky, Intel

Waikoloa, HI, USA
July, 2015

Agenda

- Welcome and Introductions
- Approve Agenda
- Approve minutes from last meeting
- 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
- Presentations and comment resolution
- Motions and Closing Business
- Future Meetings

Motion #1

- [Approve the agenda](#)
- M:
- 2nd:
- Result:

Motion #2

- Approve the minutes from the May, 2015 P802.3bq and 25GBASE-T SG joint meeting.

- M:

- 2nd:

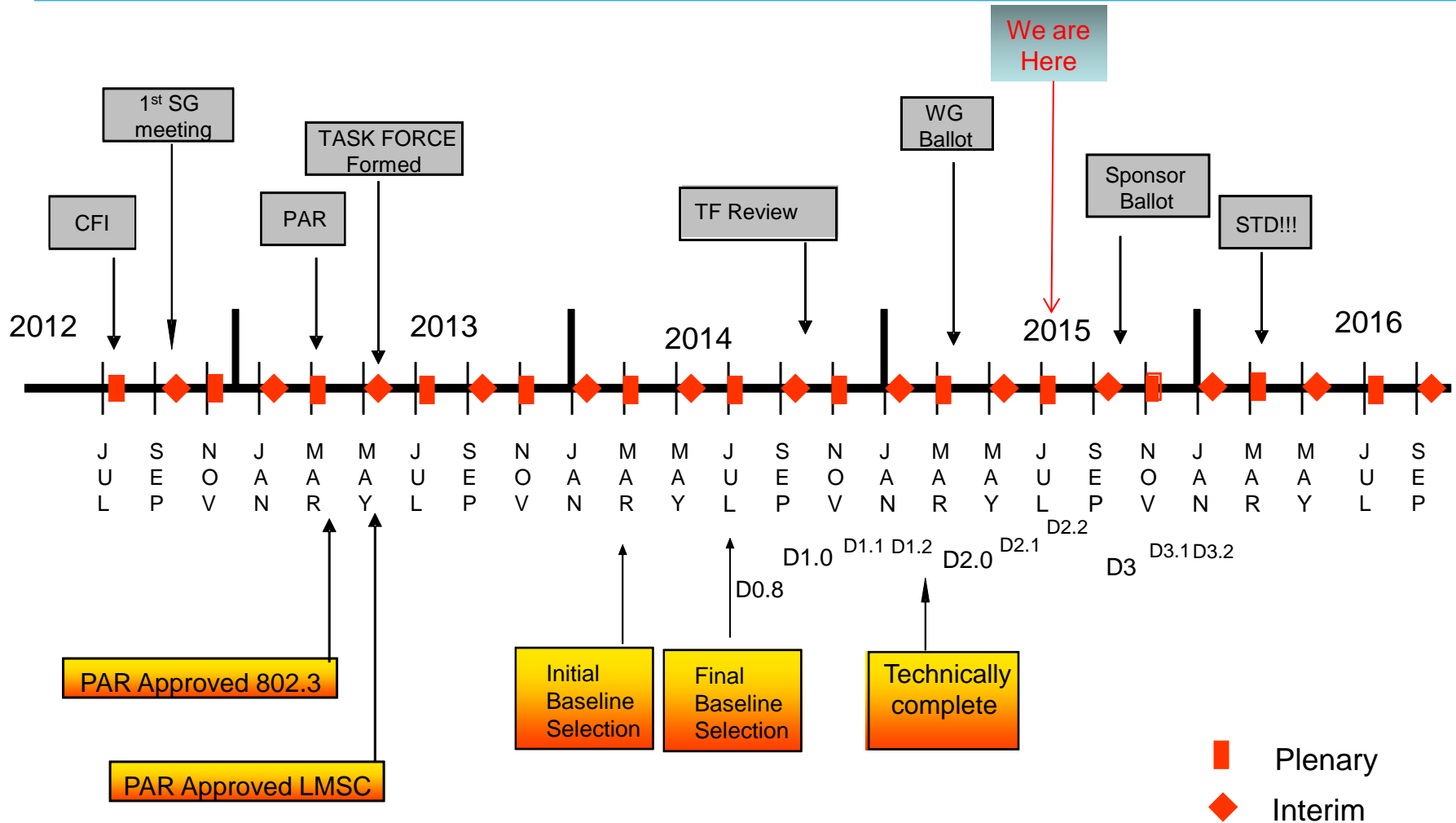- Result:

Task Force Decorum

- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (December 2013 IEEE-SA Standards Board Ops Manual 5.3.3.5)
- Photography or recording by permission only (December 2013 IEEE-SA Standards Board Ops Manual 5.3.3.4)
- 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

IEEE P802.3bq 40GBASE-T Task Force Project Information

- Task Force Organization
    - David Chalupsky, Chair
    - George Zimmerman, Secretary, Chief Editor, PHY Proposal ad hoc chair
        - Editorial team: Chris DiMinico, Valerie Maguire, Curtis Donahue, Jim Graba
    - Pete Cibula, Chair, Rx CMNR ad hoc
- Task force web and reflector information
    - Reflector information: http://www.ieee802.org/3/NGBASET/reflector.html Home page: http://ieee802.org/3/bq/index.html
        - PAR http://www.ieee802.org/3/bq/P802.3bq.pdf
        - 5 Criteria http://www.ieee802.org/3/bq/5Criteria.pdf
        - Objectives http://www.ieee802.org/3/bq/Objectives.pdf
        - Adopted timeline: http://www.ieee802.org/3/bq/adopted_timeline_802.3bq.pdf
    - Private area: http://ieee802.org/3/bq/private/index.html
        - Username: xxx
        - Password: xoxoxoxoxox
        - 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

IEEE P802.3bq Adopted Project Timeline

We are Here

1st SG meeting

TASK FORCE Formed

WG Ballot

CFI

PAR

TF Review

Sponsor Ballot

STD!!!

2012

2013

2014

2015

2016

J U L
S E P
N O V
J A N
M A R
M A Y
J U L
S E P
N O V
J A N
M A R
M A Y
J U L
S E P
N O V
J A N
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J U L
S E P
N O V
J A N
M A R
M A Y
J U L
S E P

D1.0
D1.1 D1.2
D2.0
D2.1
D2.2
D3
D3.1 D3.2

D0.8

PAR Approved 802.3

PAR Approved LMSC

Initial Baseline Selection

Final Baseline Selection

Technically complete

■ Plenary

◆ Interim

IEEE P802.3bq 40GBASE-T Objectives

- Support full duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum Frame Size of current 802.3 standard
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface
- Support Auto-Negotiation (Clause 28)
- Support Energy Efficient Ethernet (Clause 78)
- Support local area networks using point-to-point links over structured cabling topologies, including directly connected link segments
- Do not preclude meeting FCC and CISPR EMC requirements
- Support a data rate of 40 Gb/s at the MAC/PLS Service Interface
- Define a link segment based upon copper media specified by ISO/IEC JTC1/SC25/WG3 and TIA TR42.7 meeting the following characteristics:
  - 4-pair, balanced twisted-pair copper cabling
  - up to 2 connectors
  - up to at least 30 m
- Define a single 40 Gb/s PHY supporting operation on the link segment

IEEE P802.3bq 40GBASE-T Plans for the Week

- ## Goals for the meeting
  - Resolve 119 comments on D2.1

- ## Big ticket item comments
  - See Editor's Report

IEEE 802.3 25GBASE-T Study Group Project Information

- Study Group charter
  - Develop PAR and CSD modifications to P802.3bq to add 25GBASE-T to that project
    - Motion passed November 2014 in 802.3 closing plenary

- Study Group web and reflector information
  - Reflector information: http://ieee802.org/3/NGBASET/reflector.html
    - Shares reflector with P802.3bq and NGEABT study group

  - Home page: http://ieee802.org/3/25GBASET/index.html
  - Draft PAR modification to P802.3bq
    http://www.ieee802.org/3/25GBASET/draft_P802.3bq_PAR_modification_300115.pdf
  - Draft CSD modification to P802.3bq
    http://www.ieee802.org/3/25GBASET/draft_P802.3bq_modified_CSD.pdf
  - Draft Objectives modification to P802.3bq
    http://www.ieee802.org/3/25GBASET/draft_P802.3bq_modified_objectives.pdf

- Objectives and CSD modifications were approved by 802.3 in March'15. However, motion to approve PAR was missed resulting in a delay.

Modified P802.3bq 25G/40GBASE-T Objectives

- Support full duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum Frame Size of curre~~nt 802.~~
- Support a BER better than or equal to 10^{-12} at the MAC/PLS ~~interface~~
- Support Auto-Negotiation (Clause 28)
- Support Energy Efficient Ethernet (Clause 78)
- Support local area networks using point-to-point lin~~ks~~ ~~structured cabling~~ topologies, including directly connected link segments
- Do not preclude meeting FCC and CISPR EMC requirements
- Support a data rate of 40 Gb/s at the MAC/PLS Service Interface
- ❖ Support a data rate of 25 Gb/s at the MAC/PLS Service Interface
- Define a link segment based upon copper media specified by ISO/IEC JTC1/SC25/WG3 and TIA TR42.7 meeting the following characteristics:
  - 4-pair, balanced twisted-pair copper cabling
  - up to 2 connectors
  - up to at least 30 m
- Define a single 40 Gb/s PHY supporting operation on the link segment
- ❖ Define a single 25 Gb/s PHY supporting operation on the link segment
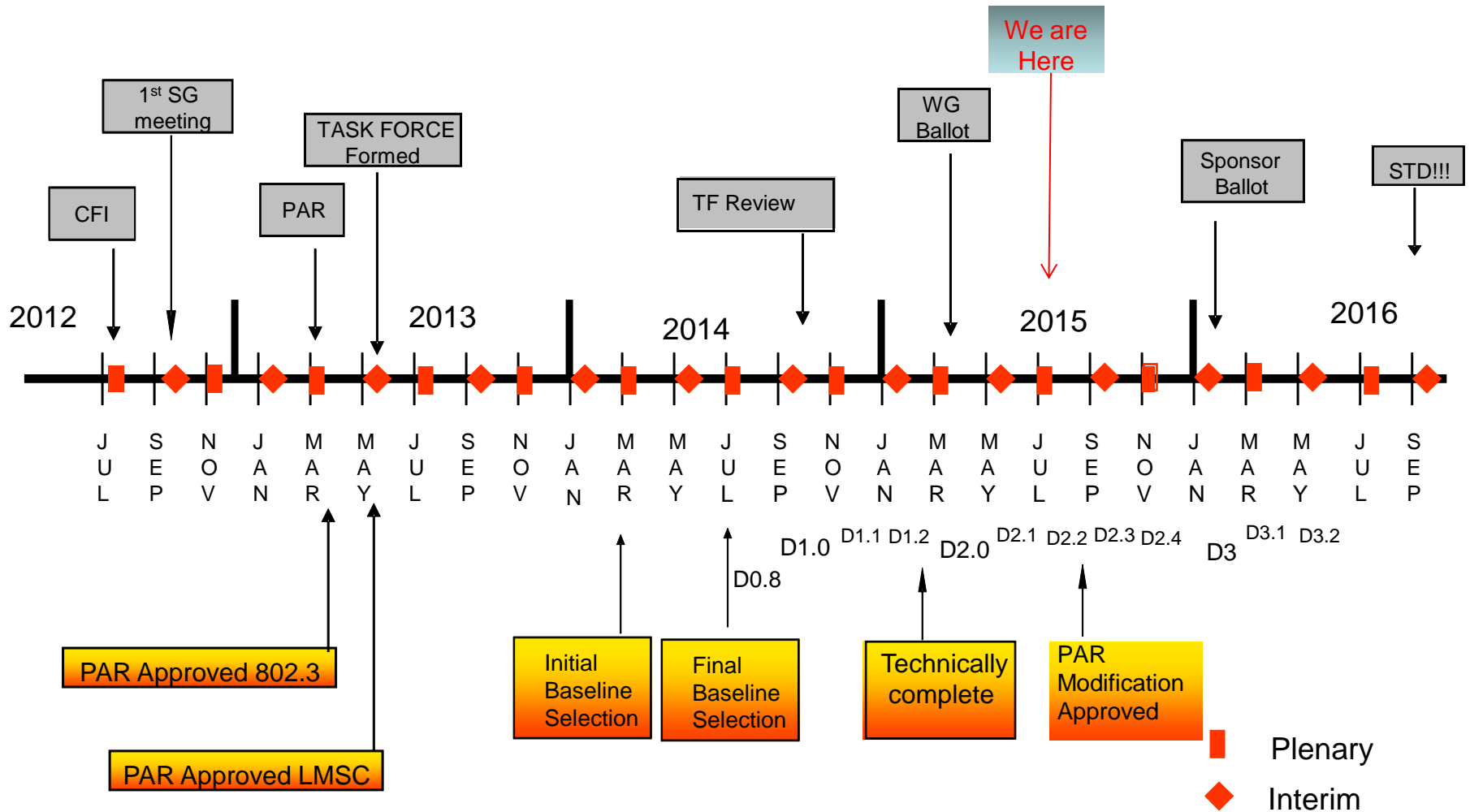   - ❖ Adopted by the 25GBASE-T Study Group, January 14, 2015

Approved by 802.3 March'15

IEEE 802.3 25GBASE-T Plans for the Week

- ## Goals for the meeting
  - Respond to PAR and CSD modification comments
  - Hear presentations
  - Move to adopt modifications to P802.3bq PAR at 802.3 closing plenary

IEEE P802.3bq Potential Timeline with 25GBASE-T

1st SG
meeting

TASK FORCE
Formed

We are
Here

WG
Ballot

CFI

PAR

TF Review

Sponsor
Ballot

STD!!!

2012   2013   2014   2015   2016

J U L
S E P
N O V
J A N
M A R
M A Y
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S E P
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J U L
S E P
N O V
J A N
M A R
M A Y
J U L
S E P

D1.0   D1.1 D1.2   D2.1 D2.2 D2.3 D2.4   D3.1 D3.2

D0.8   D2.0   D3

PAR Approved 802.3

Initial
Baseline
Selection

Final
Baseline
Selection

Technically
complete

PAR
Modification
Approved

PAR Approved LMSC

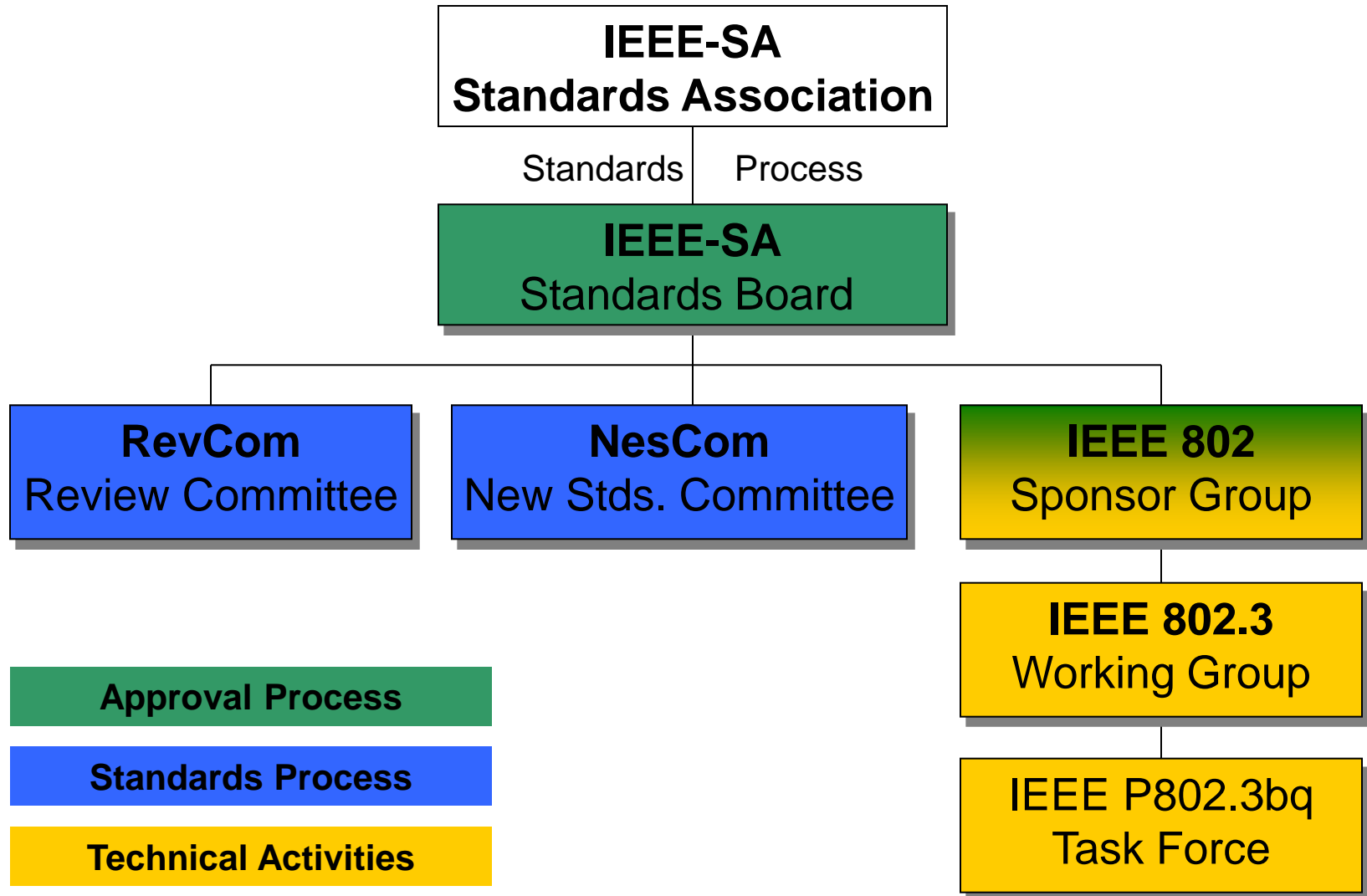■ Plenary

◆ Interim

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

Attendance

- Tutorial Material on attendance tool
  - http://ieee802.org/3/minutes/attendance_procedures.pdf

- Access details
  - URL: http://imat.ieee.org/
  - Pw =

  - Please sign the 802.3bq/NGEABT/25GBASE-T attendance book that will be circulated each day
  - IMAT records attendance for 802.3 records
  - Our book records for minutes

IEEE Structure

IEEE-SA
Standards Association

Standards | Process

IEEE-SA
Standards Board

RevCom
Review Committee

NesCom
New Stds. Committee

IEEE 802
Sponsor Group

IEEE 802.3
Working Group

IEEE P802.3bq
Task Force

Approval Process

Standards Process

Technical Activities

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

Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- **Show slides #1 through #4 of this presentation**
- **Advise the WG attendees that:**
  - The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
  - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
  - There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.

- **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:**
  - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
  - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
  - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.

- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
- It is recommended that the WG chair review the guidance in *IEEE-SA Standards Board Operations Manual* 6.3.5 and in FAQs 12 and 12a on inclusion of potential Essential Patent Claims by incorporation or by reference.

  Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.

25 March 2008 (updated January 2012)

◆IEEE

(Optional to be shown)

Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.

- **Participants [Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2]:**
    - **"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**
- **Early identification of holders of potential Essential Patent Claims is strongly encouraged**
- **No duty to perform a patent search**

25 March 2008 (updated January 2012)

◈IEEE

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/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 or visit http://standards.ieee.org/about/sasb/patcom/index.html

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

IEEE

25 March 2008 (updated January 2012)

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

◆IEEE

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.

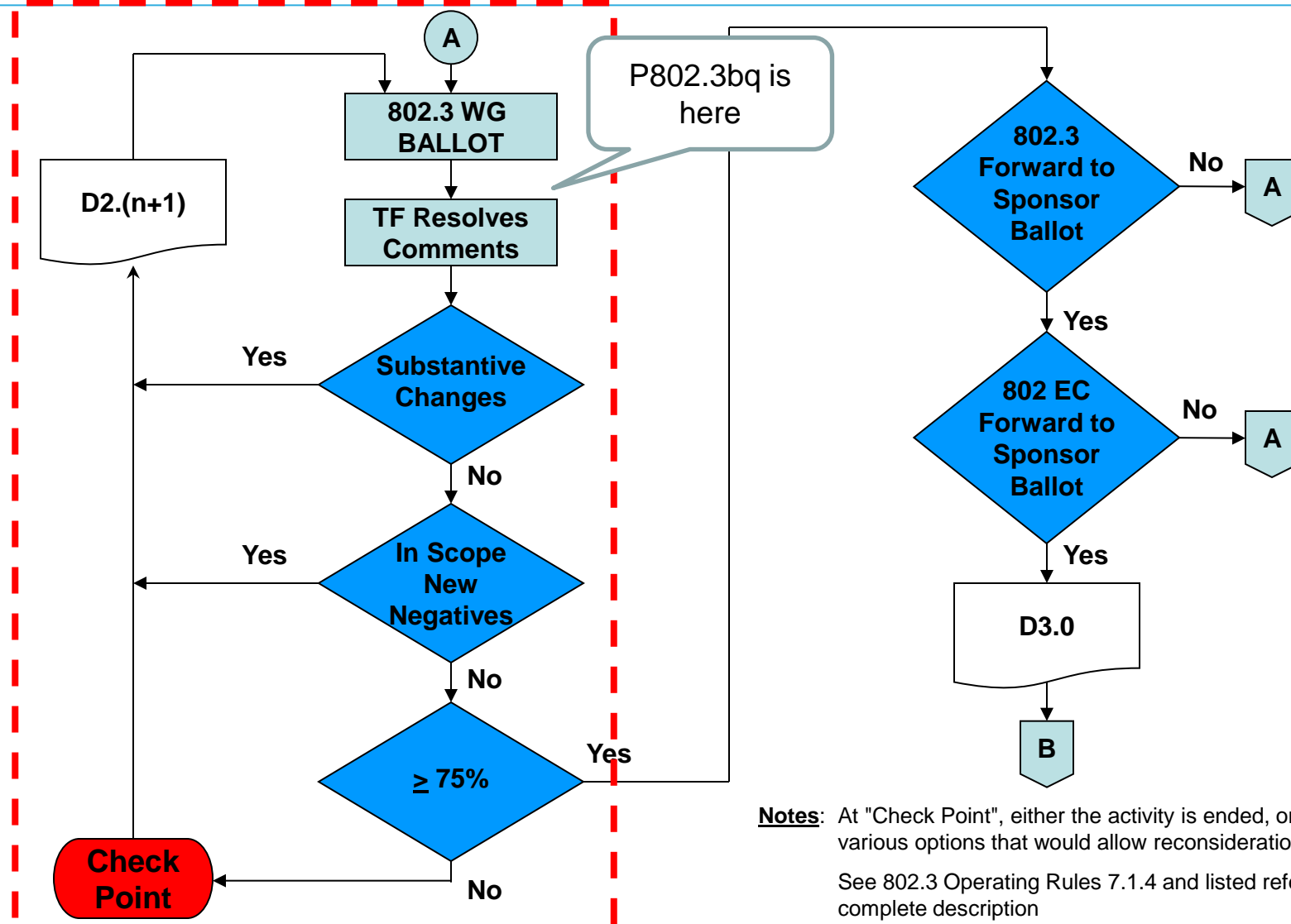# Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase
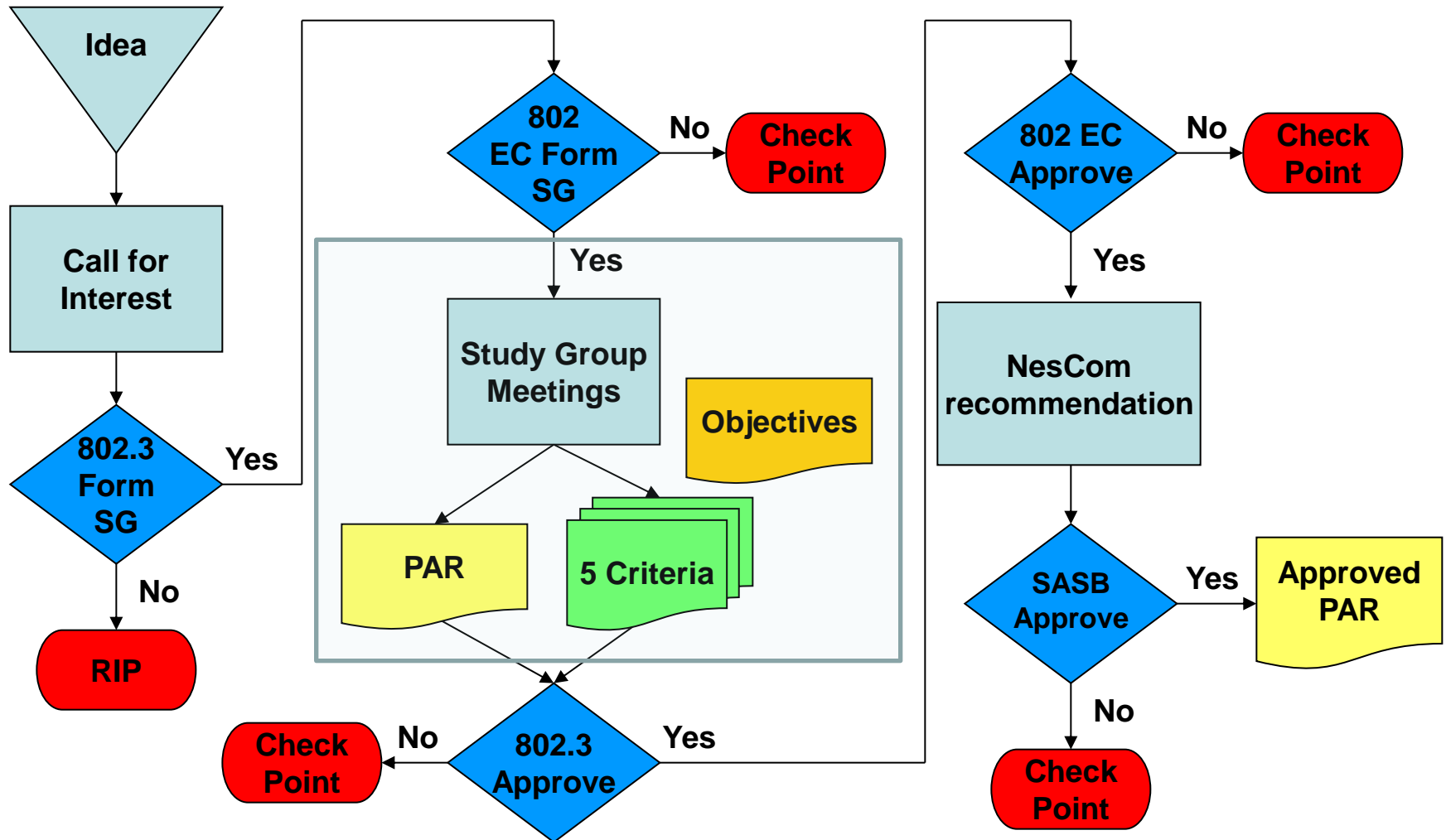
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

Overview of IEEE 802.3 Standards Process (2/5) – Task Force Comment Phase
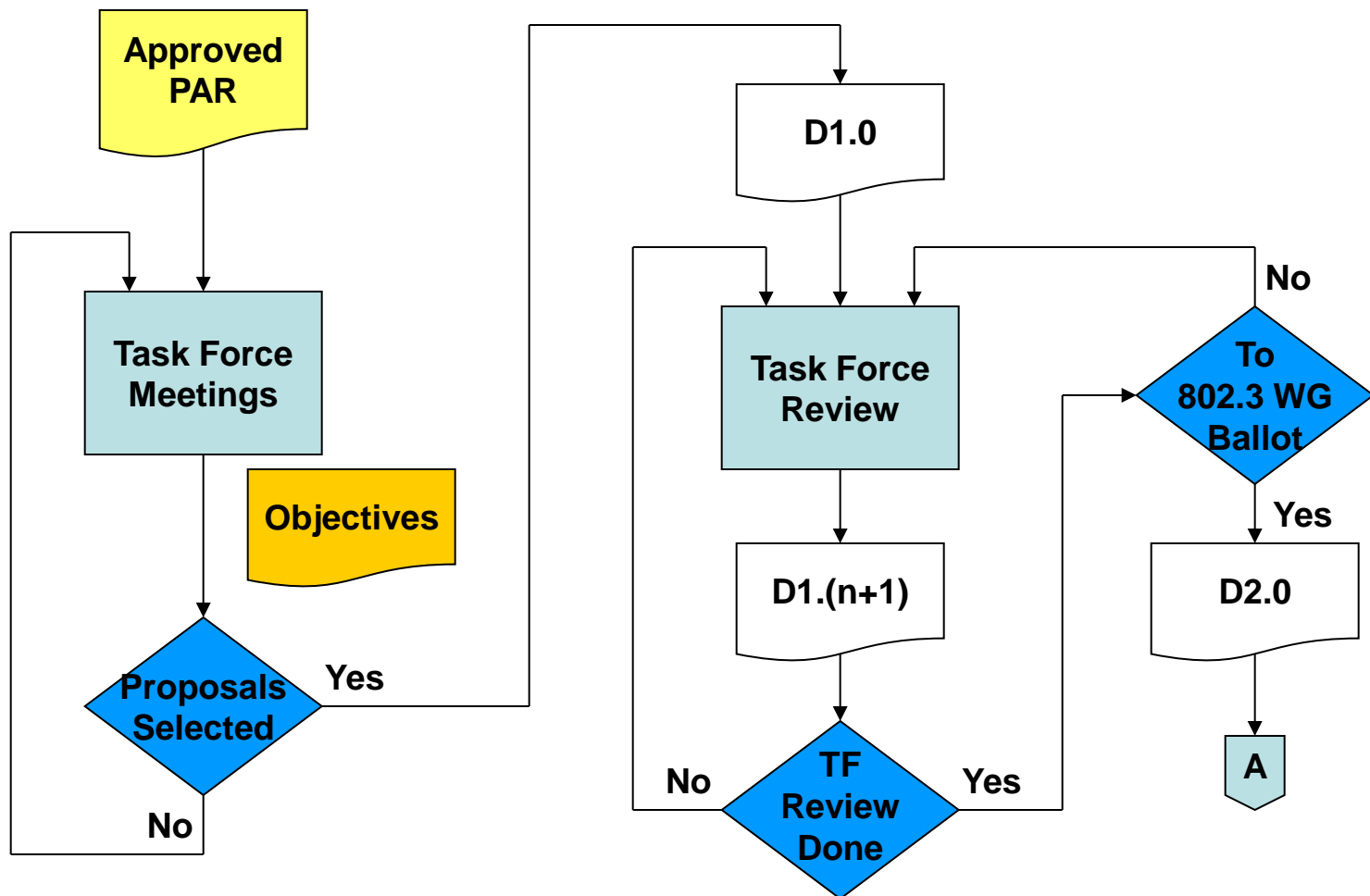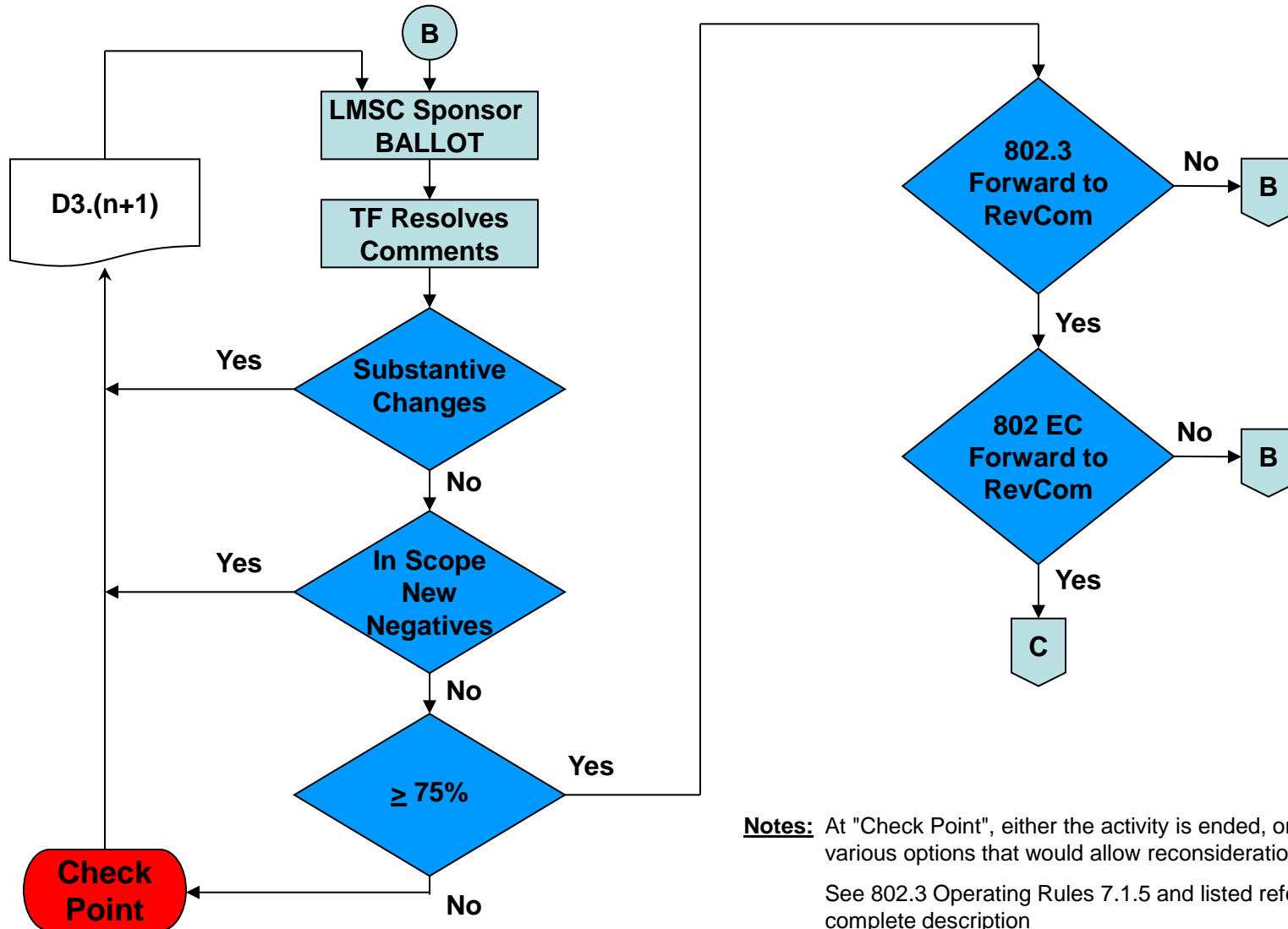
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase

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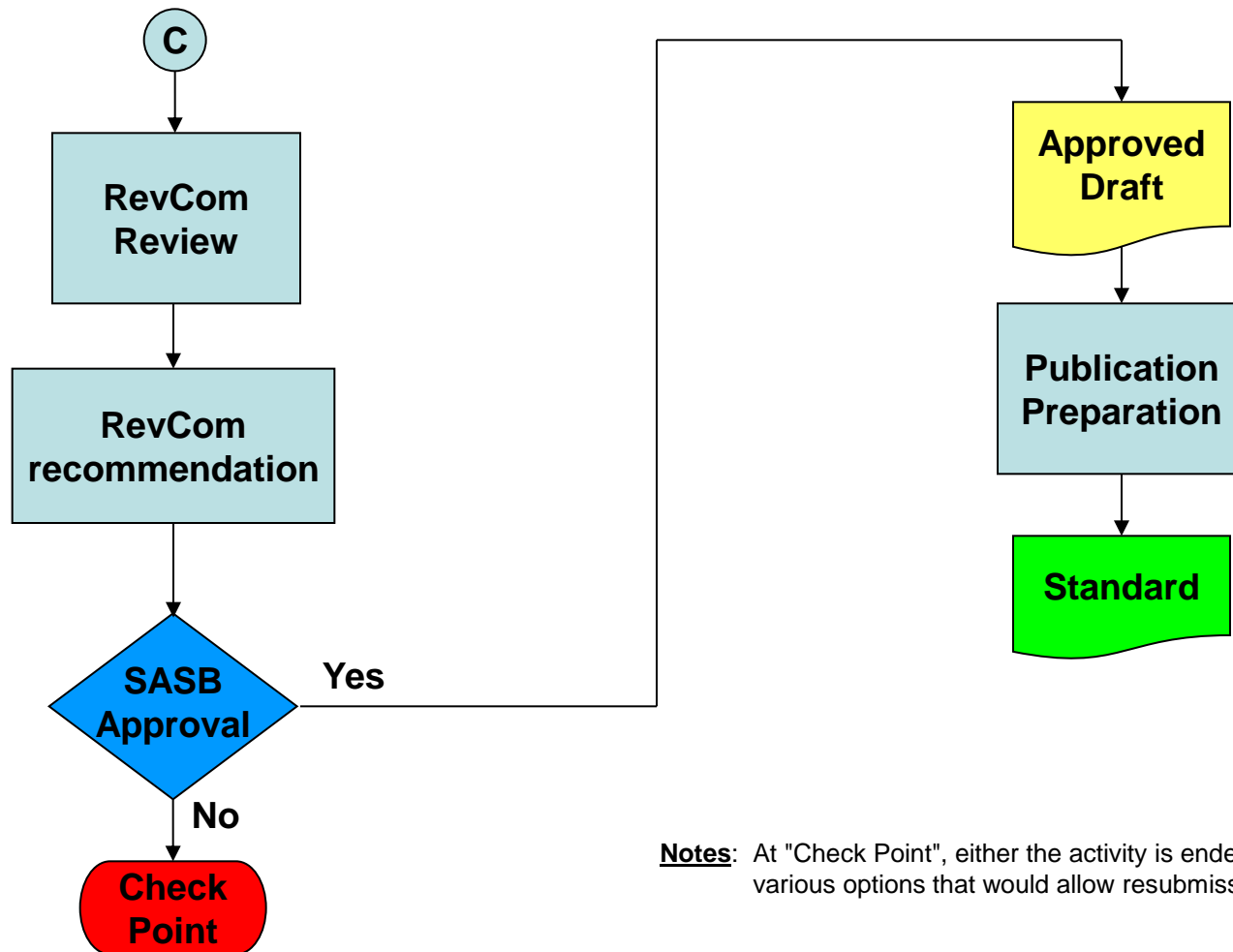
Notes: At "Check Point", either the activity is ended, or there may be various options that would allow resubmission for approval.

Liaisons and Communications

- **TR42-2015-10-111 Outgoing Liaison to IEEE 802.3bq re TIA-568-C.2-1 Draft....pdf**

- IEC SC48B response to request for status of two SC48B projects (IEC 60603-7-81 Ed. 1 and IEC 60603-7-82 Ed.1)

Note to Presenters

- New filename conventions:
  - *presenterlastname_3bq_XYr_mmyy.pdf*
  - *presenterlastname_3bz_XYr_mmyy.pdf*
  - *presenterlastname_25gbt_XYr_mmyy.pdf*
  - *XY* is presentation number, i.e. 01, 02 ,03
    - For this meeting
  - Revisions (r) are a,b,c, etc.
  - Example: carlson_3bq_01a_0713.pdf

IEEE P802.3bq 40GBASE-T Working Group ballot results

Draft 2.1 Working Group Ballot recirculation

- opened, 16 June 2015, closed 30 June 2015
- Item 2 - Vote tally:

Comments: 119	Recirculation Draft D2.1			Req %
	#	%	Status	
Abstain	36	23.2	PASS	< 30
Disapprove with comment	20	16.8	-	-
Disapprove without comment		-	-	-
Approve	99	82.3	PASS	≥ 75
Ballots returned	155	56.6	PASS	> 50
Voters	274	-	-	-

Agenda notes

- Joint P802.3bq / 25GBASE-T SG meeting
- 1:00pm to ~6pm Monday
    - Agenda is largely driven by comment resolution
        - See Editor's Report
    - Goal: P802.3bq D2.1 comment resolution complete
        - May spill into Tuesday
    - Some items are related to bz, may defer until Wednesday
- Tuesday – mostly P802.3bz
- Wednesday
    - 25GBASE-T SG
        - Respond to PAR comments
        - Several presentations
    - Joint closing with P802.3bz to resolve common items in draft

Future Meetings

- See: http://www.ieee802.org/3/interims/index.html
- See: http://802world.org/plenary/future-plenary-sessions

- Sept 2015 Interim Week of Sept 14
  - Hyatt Regency Coconut Point, Bonita Springs, FL, USA
  - Hosted by NEC
- Nov 2015 Plenary Week of Nov 8
  - Hyatt Regency Dallas, Dallas, TX, USA
- Jan 2016 Interim Week of Jan 18
  - Atlanta, GA
- March 2016 Plenary Week of March 13
  - The Venetian Macao, Macao SAR, P.R. China

- Anyone interested in hosting a interim meeting contact the IEEE 802.3 Executive Secretary Steve Carlson.

Thank You!