Agenda and General Information

IEEE P802.3bz 2.5G/5GBASE-T Task Force

David Chalupsky, Intel

Pittsburgh, Pennsylvania, USA
May, 2015

Agenda

- Appointment of Recording Secretary
- Confirmation of Task Force Chair
- 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 #2

- [Approve the agenda](#)

- M:

- 2nd:

- Result:

Motion #3

- Approve the minutes from the March, 2015 NGEABT SG meeting (joint meeting with P802.3bq TF and 25GBASE-T SG).

- 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 P802.3bz 2.5G/5GBASE-T Task Force Project Information

- **Task Force Organization**
  - David Chalupsky, Chair
  - Jon Lewis, Secretary
  - Peter Jones, Chair, Architecture ad hoc
  - Chris DiMinico, Chair, Use Case ad hoc
  - German Feyh, Chair, Enterprise Noise and Use Case Analysis ad hoc

- **Task Force web and reflector information**
  - Reflector information: http://ieee802.org/3/NGBASET/reflector.html
    - Shares reflector with P802.3bq and 25GBASE-T study group
  - Home page: http://ieee802.org/3/bz/index.html
  - PAR - http://www.ieee802.org/3/bz/P802.3bz.pdf
  - CSD - http://www.ieee802.org/3/bz/802d3_NGEABT_CSD_802.3_WG_approved_12-march-15.pdf
  - Objectives - http://www.ieee802.org/3/bz/ngeabt_objectives_802.3WG_approved_0315.pdf

Next Generation Enterprise Access BASE-T PHY 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 Auto-Negotiation (Clause 28)
- Support optional Energy Efficient Ethernet (Clause 78)
- Support local area networks using point-to-point links over structured cabling topologies
- Do not preclude meeting FCC and CISPR EMC requirements
- Support PoE (Clause 33)
  - including amendments made by 802.3bt "DTE Power via MDI over 4-Pair Task Force"
- Support MAC data rates of 2.5 Gb/s and 5 Gb/s
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent)
- Select copper media from ISO/IEC 11801:2002, with any appropriate augmentation to be developed through work of 802.3 in conjunction with SC25/WG3 and TIA TR42
- Define a 2.5 Gb/s PHY for operation over
  - Up to at least 100m on four-pair Class D (Cat5e) balanced copper cabling on defined use cases and deployment configurations
- Define a 5 Gb/s PHY for operation over
  - Up to at least 100m on Class E (Cat6) balanced copper cabling on defined use cases and deployment configurations
  - Up to 100m on Class D (Cat5e) balanced copper cabling on defined use cases and deployment configurations

IEEE P802.3bz 2.5G/5GBASE-T Plans for the Week

Goals for the meeting

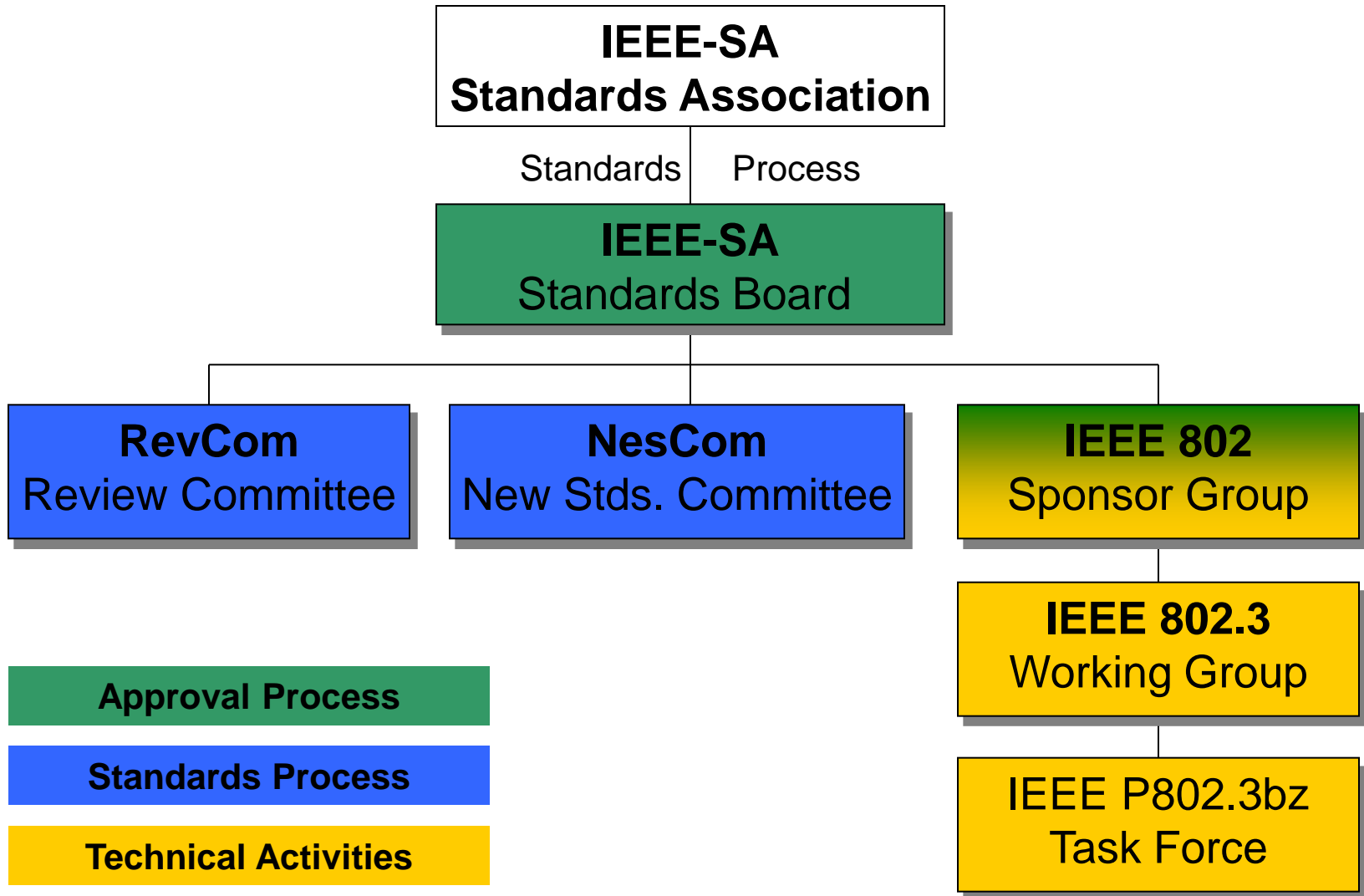- Build consensus toward baseline proposals

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	NesCom	IEEE 802
Review Committee	New Stds. Committee	Sponsor Group

IEEE 802.3
Working Group

IEEE P802.3bz
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)

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(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)

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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

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25 March 2008 (updated January 2012)
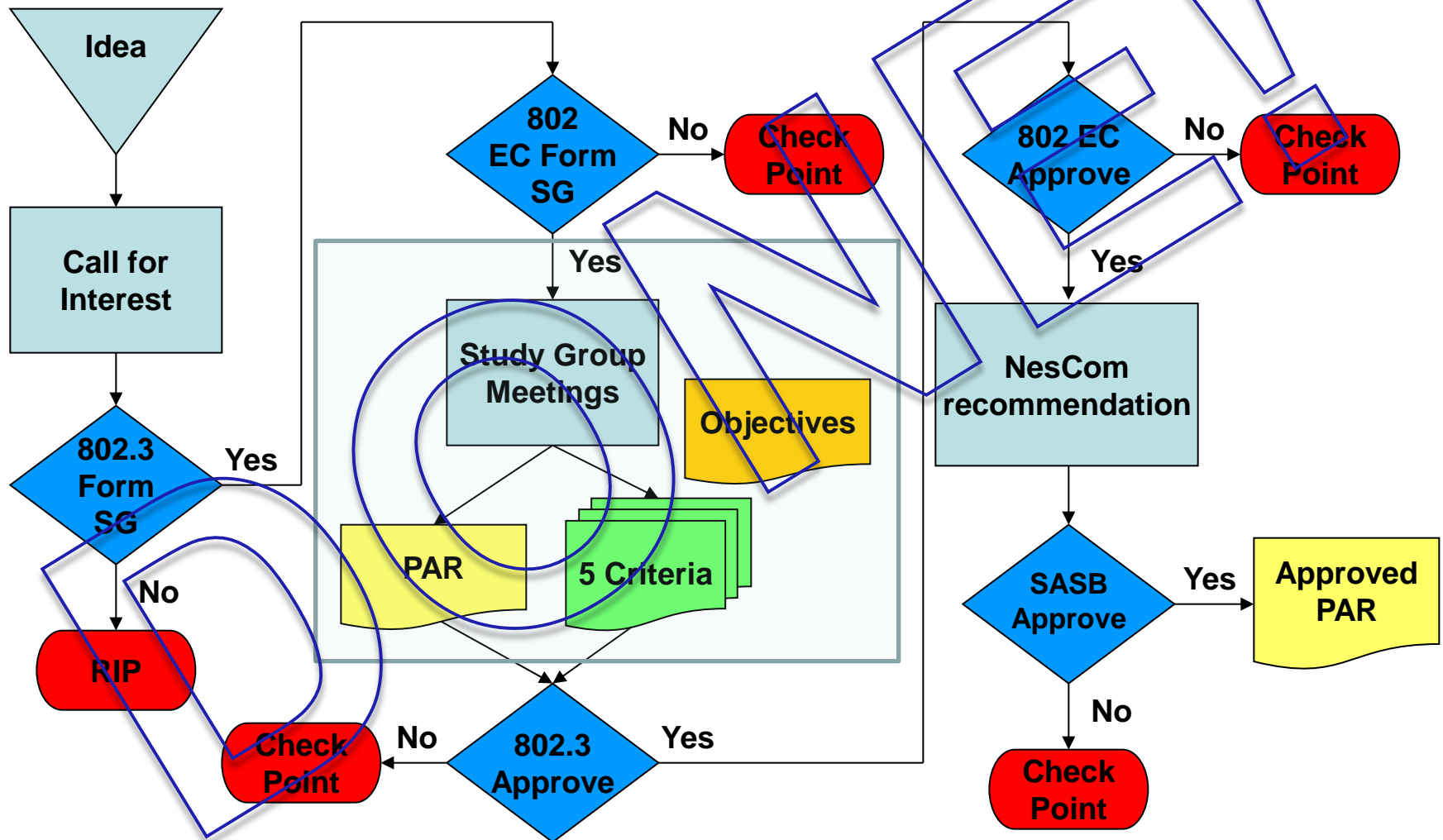
Call for Potentially Essential Patents

- 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

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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.**

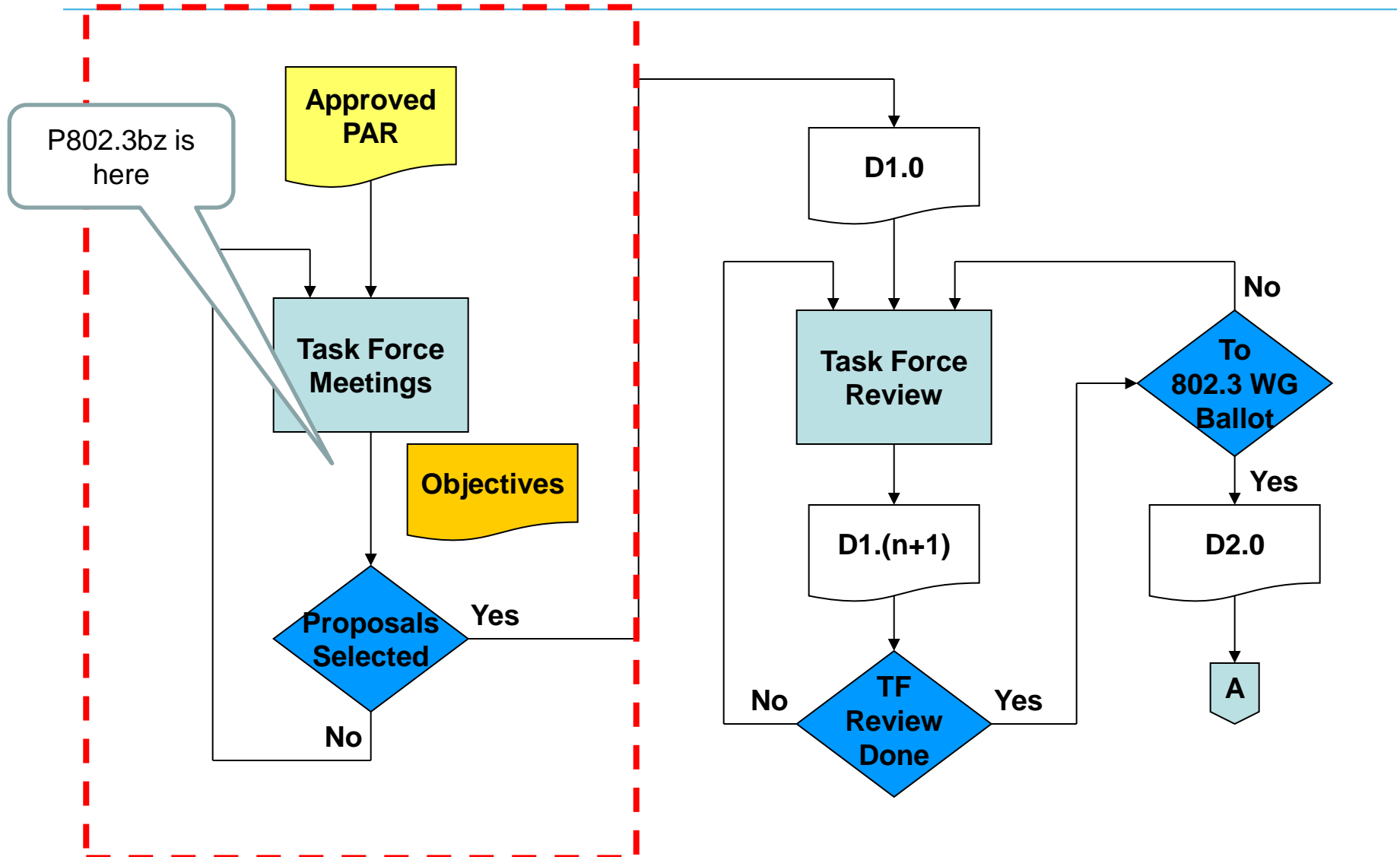
  See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

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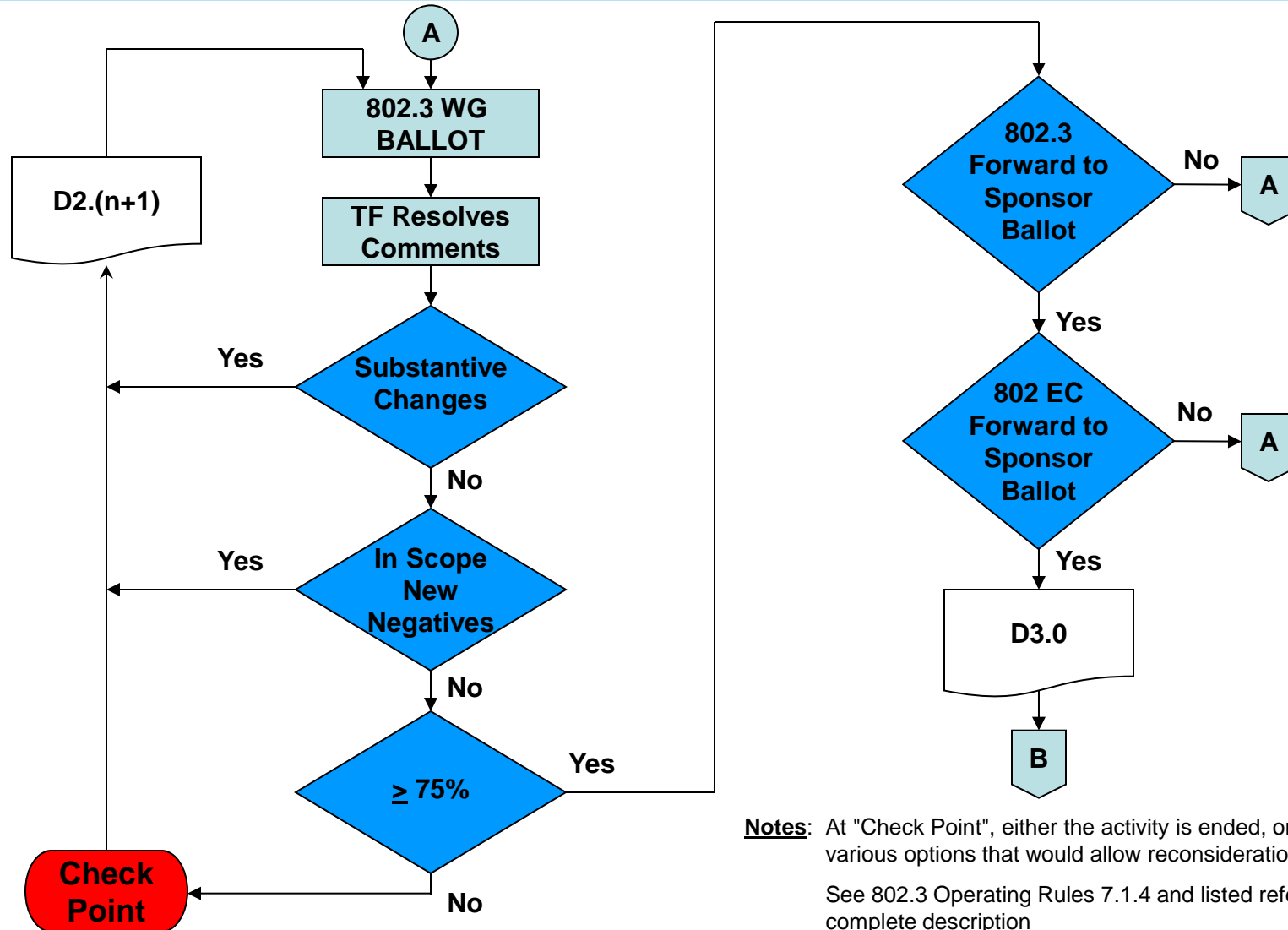

Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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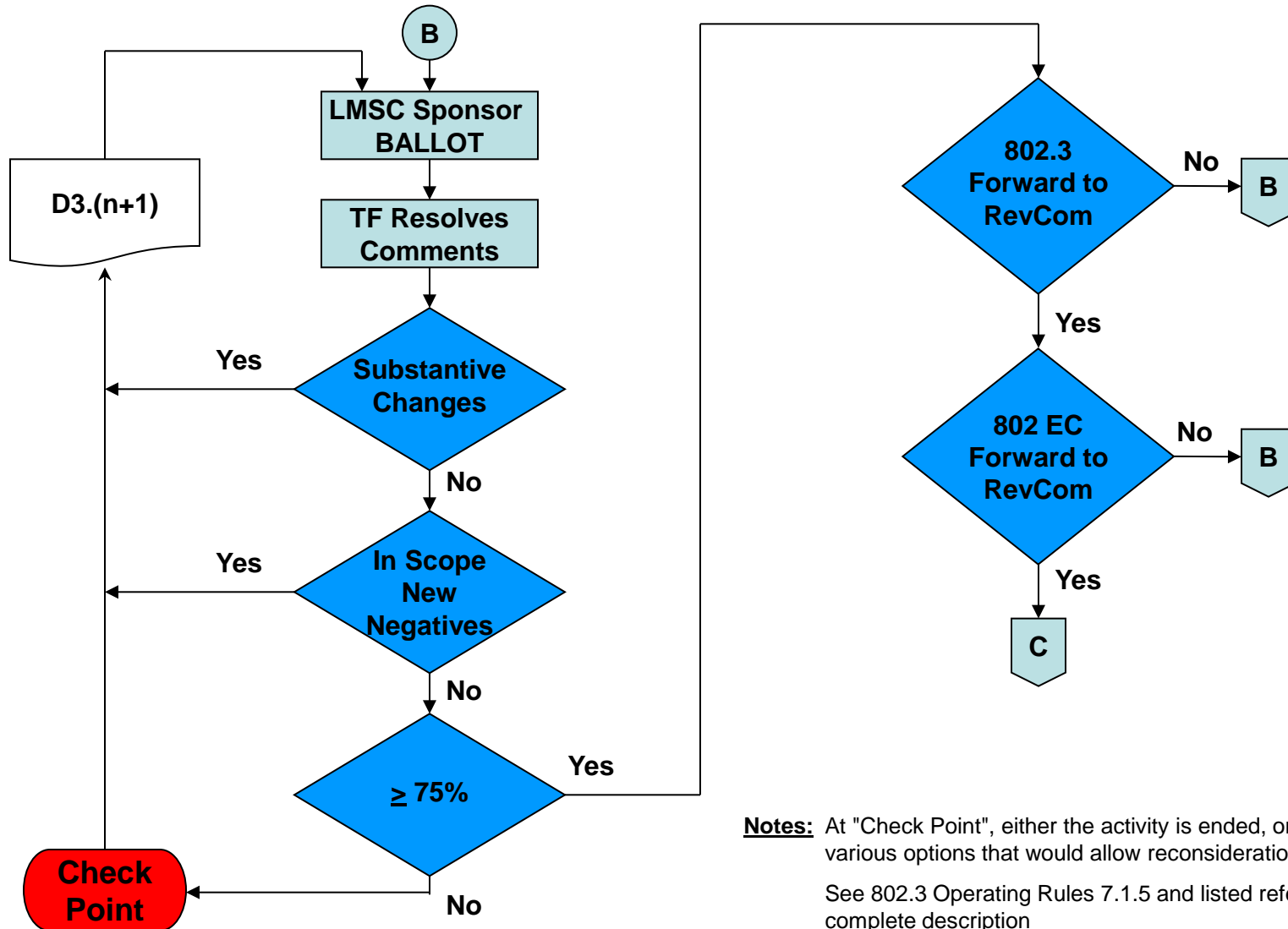
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase

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

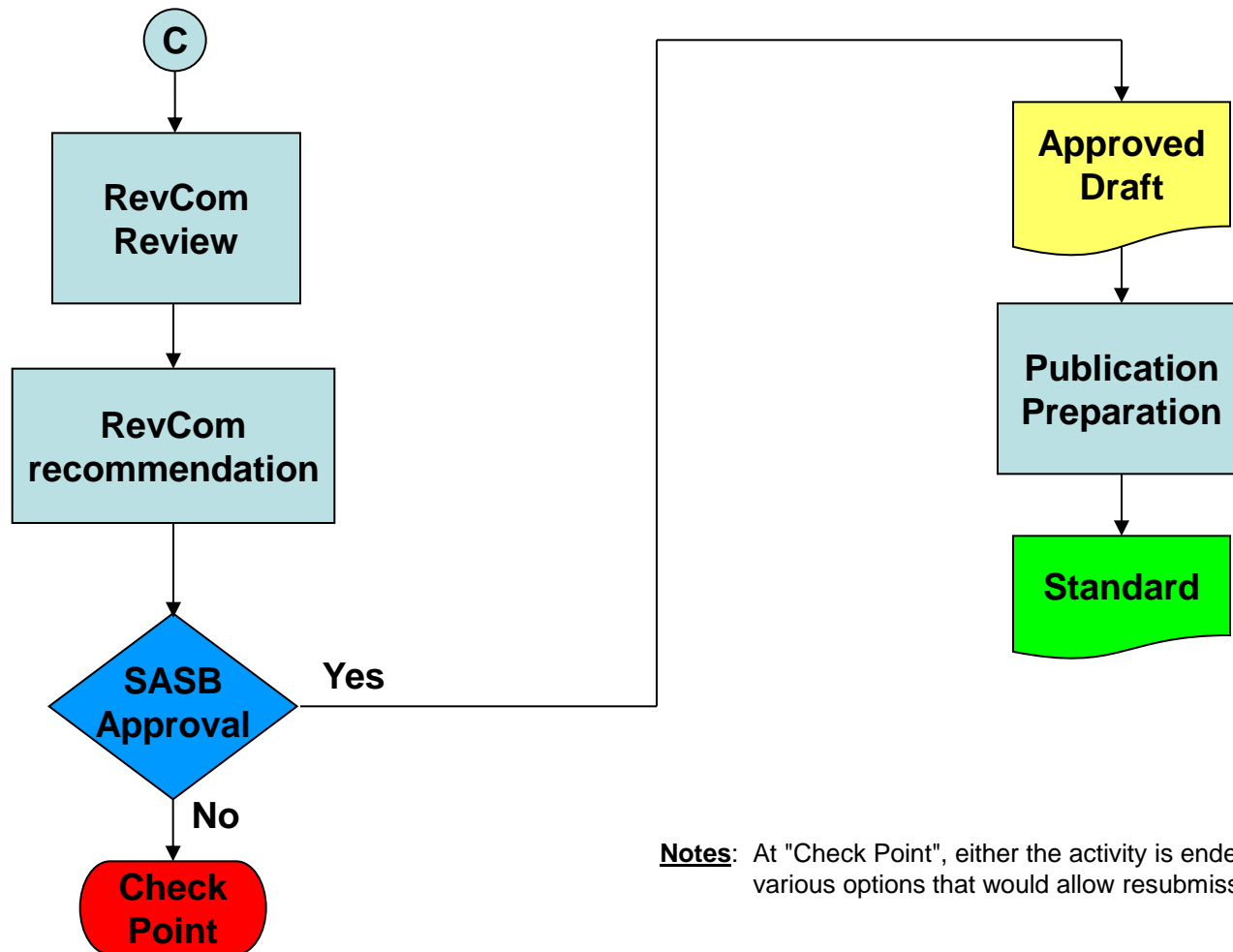# Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase

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

C

RevCom Review

RevCom recommendation

SASB Approval — **Yes**

No

Check Point

Approved Draft

Publication Preparation

Standard

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

Liaisons and Communications

- NONE!

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

Proposed Agenda – Day 1

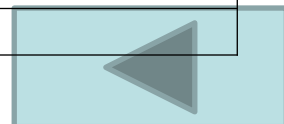| time	Time	Title	Presenter	Affiliation	file
0:15	1:00 PM	Open, appoint secretary & confirm chair	David Law	HP	agenda_3bz_01_0515.pdf
0:30	1:15 PM	Agenda and General Information	Chair		agenda_3bz_01_0515.pdf
0:15	1:45 PM	Architecture ad hoc report	Peter Jones	Cisco	jones_3bz_01_0515.pdf
0:10	2:00 PM	Use Case ad hoc report	Chris DiMinico	MC Communications	diminico_3bz_01_0515.pdf
0:10	2:10 PM	ENUCA ad hoc report	German Feyh	Broadcom	feyh_3bz_02_0515.pdf
0:20	2:20 PM	External Noise Event Study	German Feyh	Broadcom	feyh_3bz_01_0515.pdf
0:20	2:40 PM	Testing Impulse Noise Tolerance	Larry Cohen	Aquantia	cohen_3bz_01_0515.pdf
0:10	3:00 PM	Cable Clamp Injection of Impulse Noise	Pete Cibula	Intel	cibula_3bz_01_0515.pdf
0:30	3:10 PM	A Quick Draft to 802.3bz: Editorial Considerations, Standards Dependencies, and Potential Timeline	George Zimmerman	CME Consulting	zimmerman_3bz_02_0515.pdf
0:15	3:40 PM	**BREAK**			
0:20	3:55 PM	Link Segment Specifications	George Zimmerman	CME Consulting	zimmerman_3bz_01_0515.pdf
0:20	4:15 PM	Cat 6 Alien Crosstalk and Related System Margins	Paul Vanderlaan	Berk-Tek	vanderlaan_3bz_01a_0515.pdf
0:20	4:35 PM	Alien crosstalk and 2.5 G	Dieter Schicketanz	Leoni-Kerpan	schicketanz_3bz_01_0515.pdf
0:20	4:55 PM	PCS/PMA Proposal	Tom Souvignier	Broadcom	souvignier_3bz_01_055.pdf
0:20	5:15 PM	10GBASE-T Uncoded Bit Error Challenges & Ramifications	Ramin Farjadrad	Aquantia	farjadrad_3bz_01_0515.pdf
0:30	5:35 PM	PMA/PCS Considerations for 2.5G and 5G	Ramin Shirani	Aquantia	shirani_3bz_01_0515.pdf
	6:05 PM	**recess for the day**			

Times listed are subject to change.

Proposed Agenda – Day 2

time	Time	Title	Presenter	Affiliation	file
0:10	9:00 AM	**Day 2 - opening remarks**			
0:30	9:10 AM	Scaling the MAC and XGMII for 2.5/5GBASE-T	Howard Frazier	Broadcom	frazier_3bz_01_0515.pdf
0:20	9:40 AM	PHY/MAC Interface	Amrik Bains	Cisco	bains_3bz_01_0515.pdf
0:20	10:00 AM	Mechanisms Influencing BASE-T 1Gb/10Gb Time-To-Link	Pete Cibula	Intel	
0:20	10:20 AM	xGBASE-T Auto-Negotiation Proposal	William Lo	Marvell	lo_3bq_01a_0515.pdf
0:30	10:40 AM	802.3bz Layers - Auto-negotiation Proposal	Yong Kim	Broadcom	kim_3bz_02_0515.pdf
0:30	11:10 AM	Supporting Materials for 802.3bz Layers - Auto-negotiation Proposal	Yong Kim	Broadcom	kim_3bz_03_0515.pdf
0:30	11:40 AM	802.3bz Layers - CL45 Management Proposal	Yong Kim	Broadcom	kim_3bz_01_0515.pdf
1:30	12:10 PM	**LUNCH**			
3:00	1:40 PM	Discussion, Consensus Proposals, Motions & Straw Polls			
0:15	4:40 PM	Closing Business			
0:10	4:55 PM	Adjourn			

Times listed are subject to change.

Future Meetings

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

- July 2015 Plenary Week of July 13
  - Hilton Waikoloa Village, Waikoloa, HI, USA
- 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
- March 2016 Plenary Week of March 13
  - The Venetian Macao, Macau, China

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

Thank You!