

# Agenda and General Information

IEEE 802.3  
400 Gb/s Ethernet Study Group

John D'Ambrosia, Dell  
Indian Wells, CA, USA  
IEEE 802.3 January 2014 Interim

# Agenda

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- Appointment of Recording Secretary
- Welcome and Introductions
- Approve Agenda
- Approve Nov 2013 Plenary Minutes
- Goals for this meeting
- Reflector and Web
- Ground Rules
- IEEE
  - Structure
  - Bylaws and Rules
  - Guidelines for IEEE-SA Meetings
  - IEEE Standards Process
- Liaisons & Communications
- Ad Hoc Reports
- Presentations
- Discussion, Straw Polls, Motions
- Closing Business
- Future Meetings

# Task Force Decorum

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- Photography or recording by permission only (2010 SASB Op Manual 5.3.3.4)
- Cell phone ringers off
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (5.3.3.5)
- 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

# Goals for the meeting week

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- Hear presentations related to objectives and 5 Criteria.
- Consensus on Objectives, PAR, 5 Criteria.
- Approve requesting IEEE 802.3 WG submit project documentation.
- Lay the ground work for the next meeting.

# Reflector and Web

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- To subscribe to the 400G 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-802-3-400G <yourfirstname> <yourlastname>  
end*

- Send 400G reflector messages to:

[STDS-802-3-400G@listserv.ieee.org](mailto:STDS-802-3-400G@listserv.ieee.org)

- Task Force web page URL:

<http://www.ieee802.org/3/400GSG/index.html>

- Ad hoc area URL:

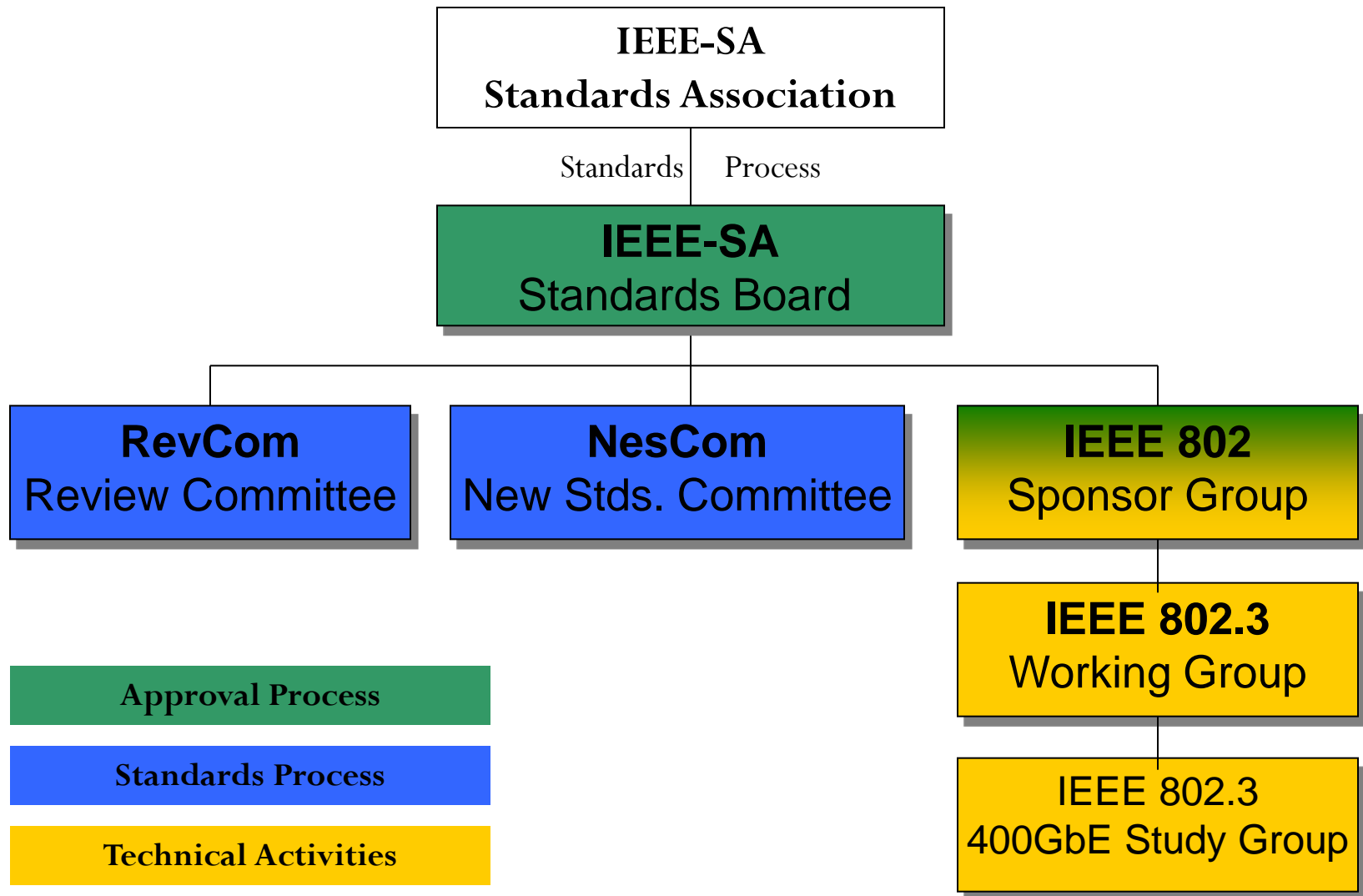
<http://www.ieee802.org/3/400GSG/public/adhoc/index.shtml>

# 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, Rules, & References

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- **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>
- **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/PNP/2010-07/IEEE\\_802\\_LMSC\\_OM\\_approved\\_100716.pdf](http://www.ieee802.org/PNP/2010-07/IEEE_802_LMSC_OM_approved_100716.pdf)
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures**  
[http://www.ieee802.org/PNP/2010-07/IEEE\\_802\\_LMSC\\_WG\\_PandP\\_approved\\_100716.pdf](http://www.ieee802.org/PNP/2010-07/IEEE_802_LMSC_WG_PandP_approved_100716.pdf)
- **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)
- **“Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy”**  
<http://standards.ieee.org/develop/policies/antitrust.pdf>



# Guidelines for IEEE-SA Meetings

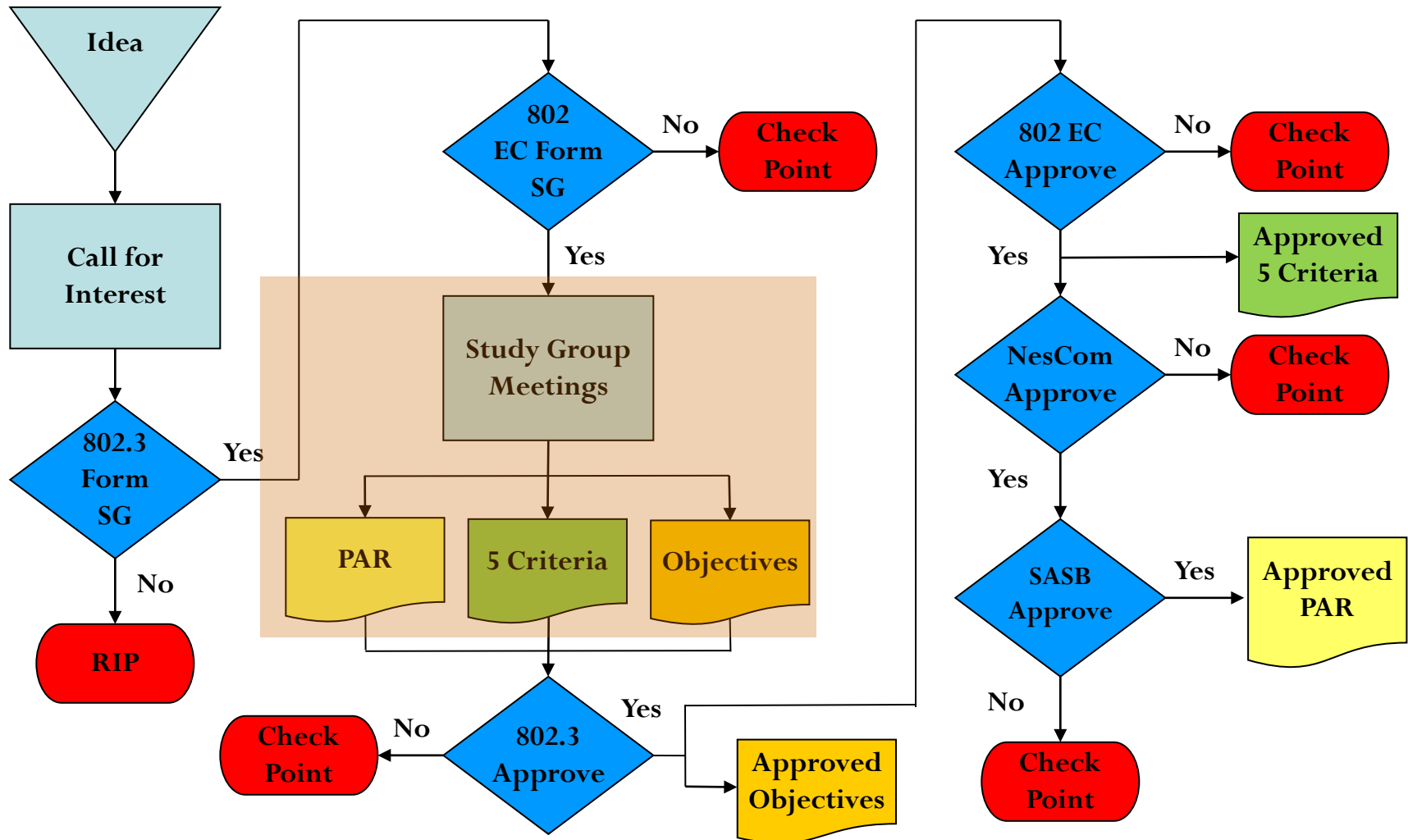
- All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.
- Don't discuss the interpretation, validity, or essentiality of patents/patent claims.
- Don't discuss specific license rates, terms, or conditions.
  - Relative costs,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

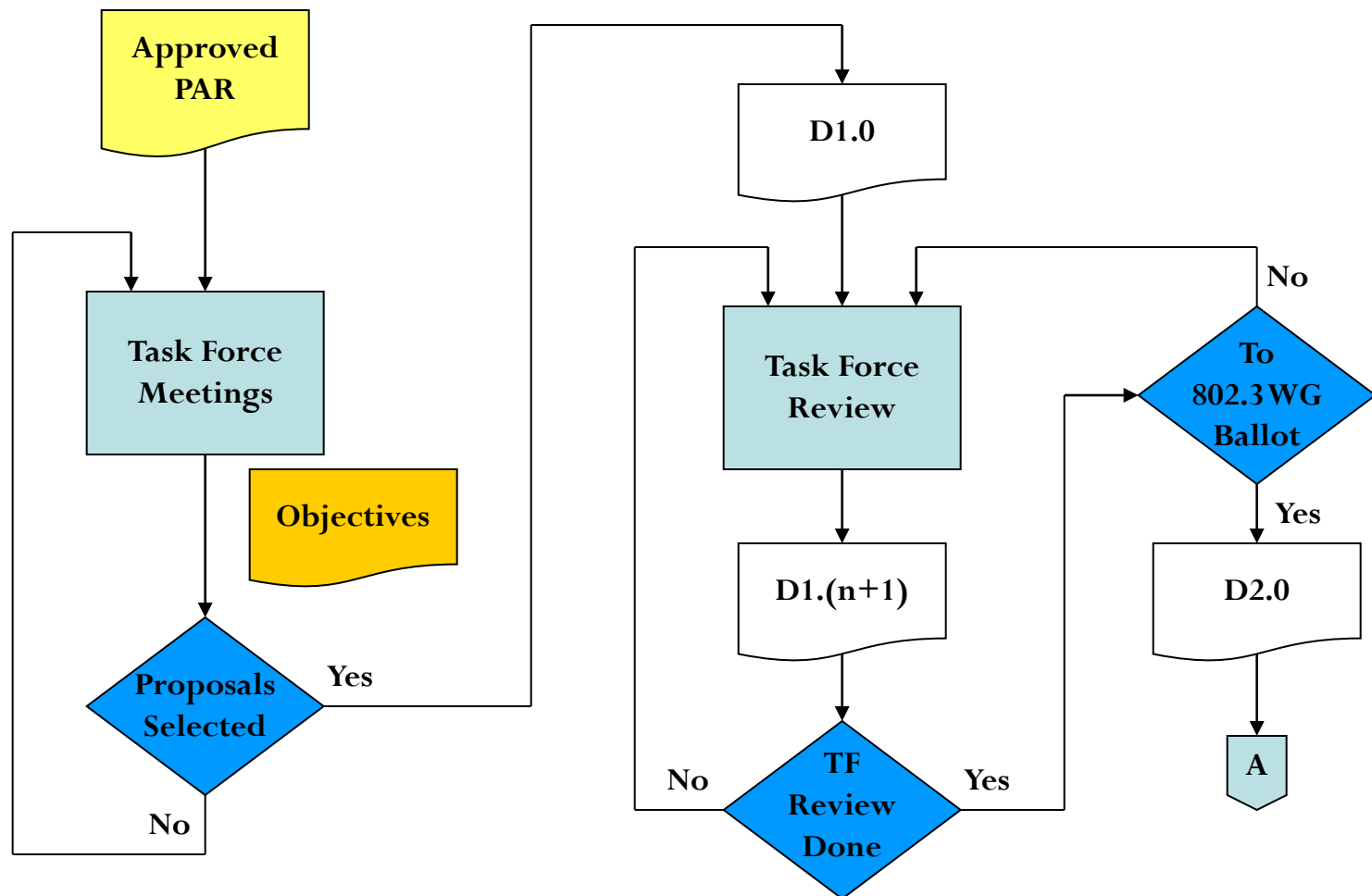
This slide set is available  
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>

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

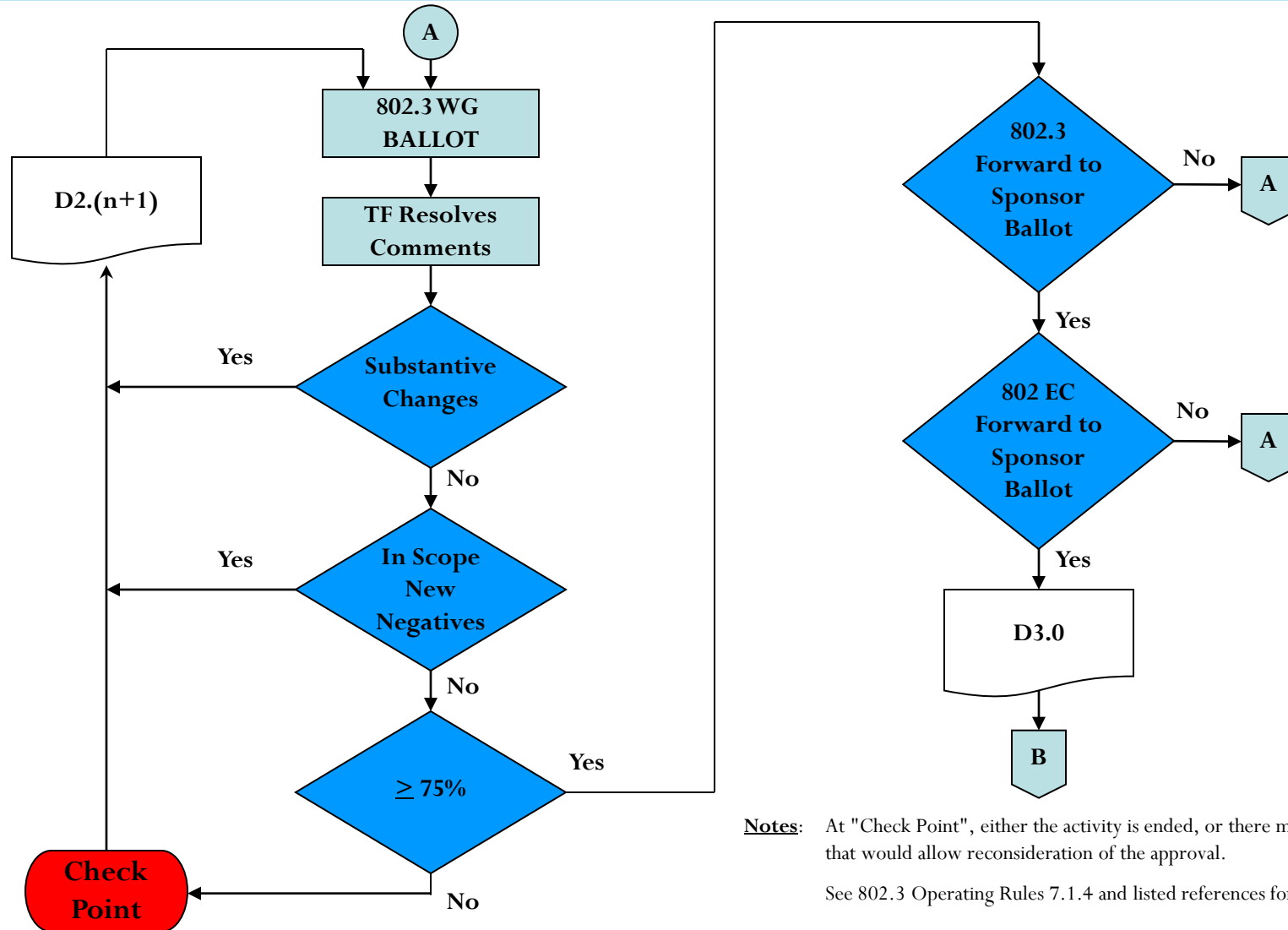


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



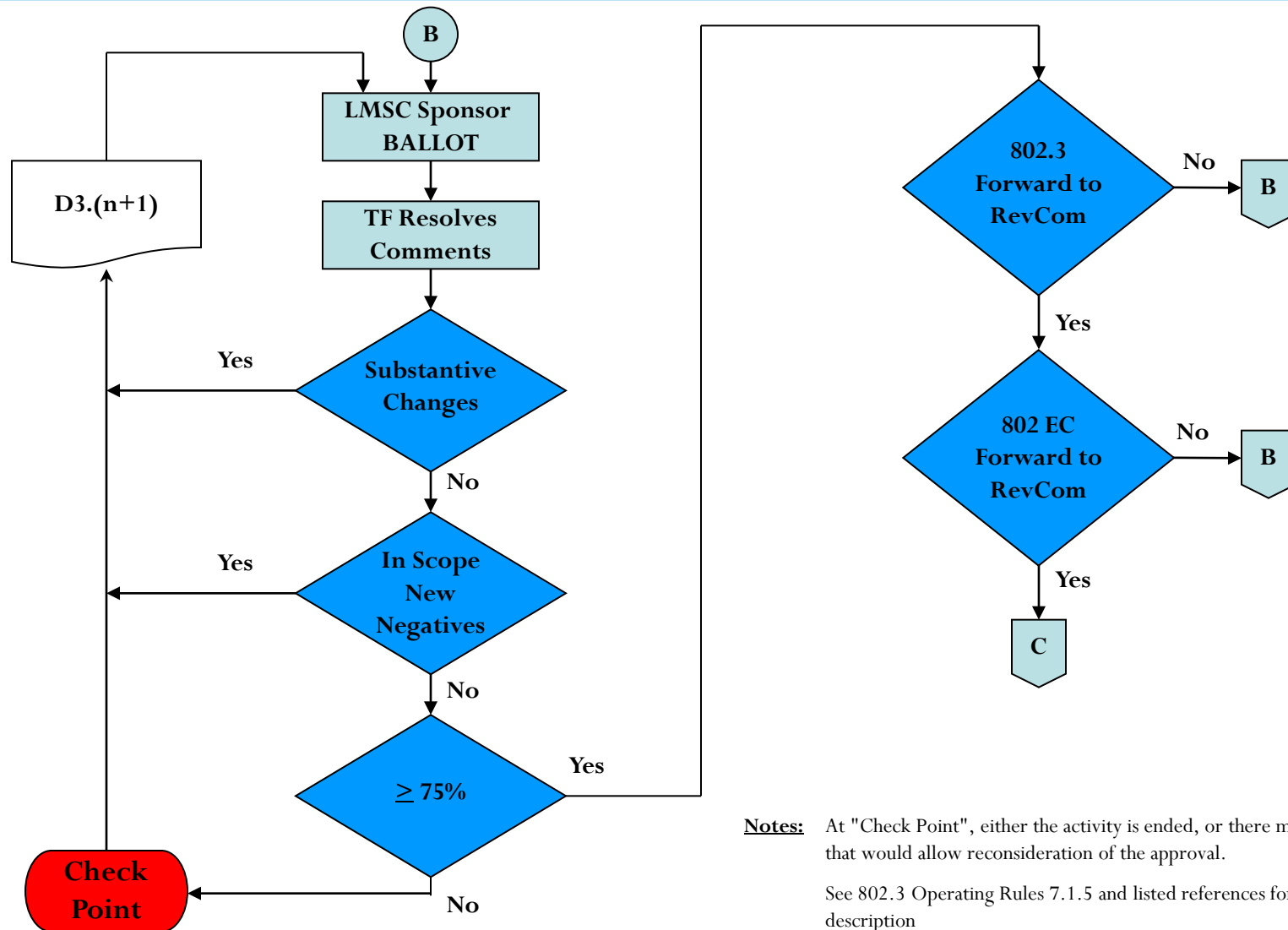
# Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



**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

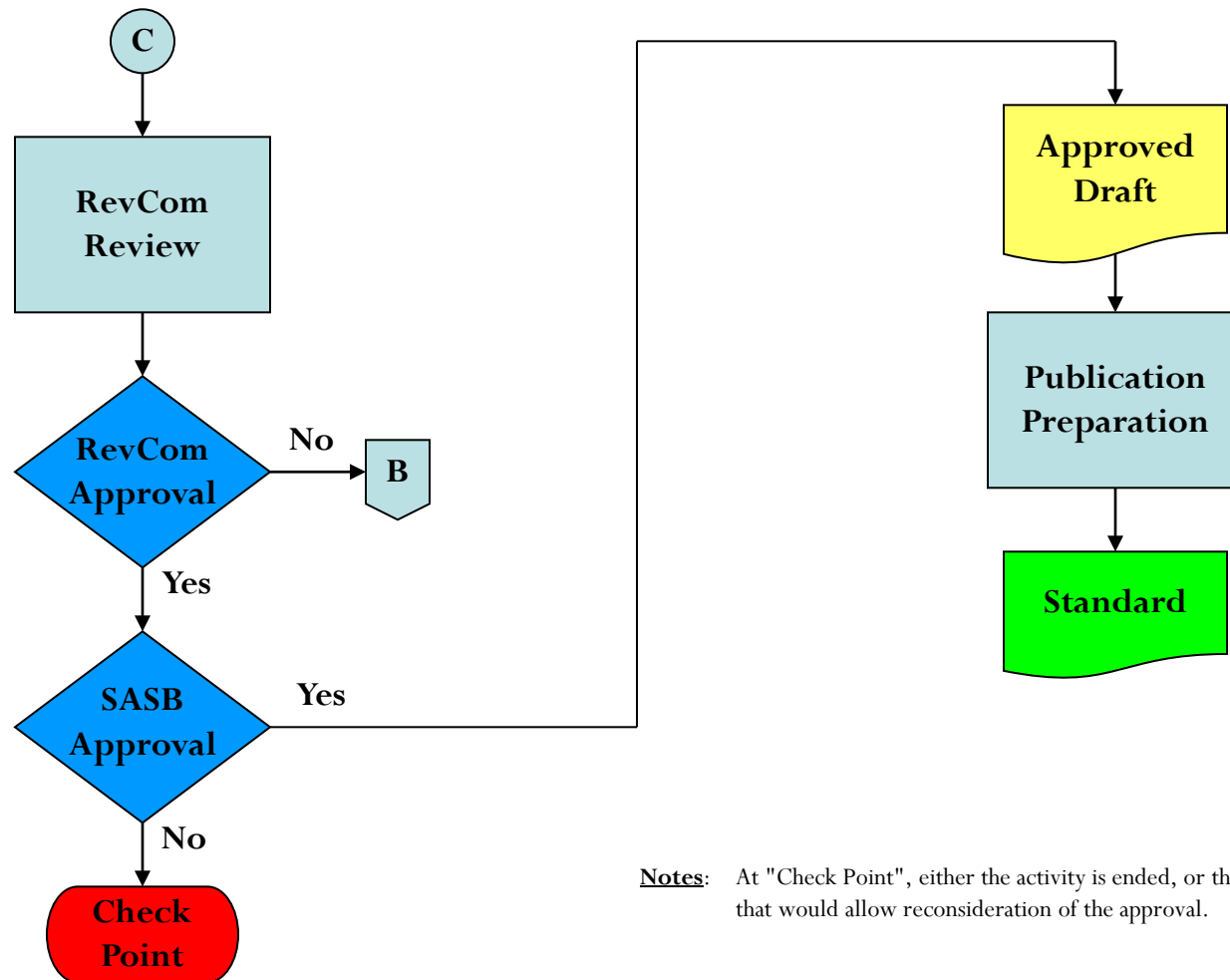
# Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



**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 reconsideration of the approval.

# Liaisons and Communications

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- Appointed at 802.3 Opening Plenary
  - ISO/IEC JTC1/SC 25 WG3: Status of standards to support parallel single mode optical fibre cabling
    - [http://www.ieee802.org/3/minutes/nov13/incoming/25N2202\\_LiaisonRep\\_to\\_EEE\\_paralelIOF.pdf](http://www.ieee802.org/3/minutes/nov13/incoming/25N2202_LiaisonRep_to_EEE_paralelIOF.pdf)

# Monday

Note –Times listed are subject to change.

| Time     | Presenter                | Affiliation    | Title  | File Name                  |
|----------|--------------------------|----------------|--|----------------------------|
| 8:30 AM  | John D'Ambrosia          | Dell           | Agenda and General Information   | agenda_400_01_0114.pdf     |
| 9:15 AM  | Alan Flatman             | Independent    | Liaison: ISO/IEC JTC1/SC 25 WG3  |                            |
| 9:25 AM  | Steve Trowbridge         | Alcatel-Lucent | Technical Feasibility Ad hoc   | trowbridge_400_01_0114.pdf |
| 9:35 AM  | Andy Moorwood            | Infinera       | Economic Feasibility Ad Hoc  | moorwood_400_01_0114.pdf   |
| 9:45 AM  | John D'Ambrosia          | Dell           | Applications Ad Hoc Update   | dambrosia_400_01_0114.pdf  |
| 9:55 AM  | Break                    |                |  |                            |
| 10:15 AM | Tom Palkert              | Molex          | Passive Copper Cable Objective for 400 GbE   | palkert_400_04_0114.pdf    |
| 10:45 AM | Tom Palkert              | Molex          | Need for 400GbE Breakout   | palkert_400_01_0114.pdf    |
| 11:15 AM | Mike Peng Li             | Altera         | Economic Feasibility of 400G Ethernet MAC/PCS/FEC/PMA                                | li_400_01_0114.pdf         |
| 12:00 PM | Lunch                    |                |  |                            |
| 1:15 PM  | Mark Gustlin             | Xilinx         | Economic Feasibility of 400G Ethernet MAC/PCS/FEC                                    | gustlin_400_01_0114.pdf    |
| 1:45 PM  | Yoshiaki Sone            | NTT            | Maximizing the cost advantage of Ethernet by considering future generations of 400GE | sone_400_01_0114.pdf       |
| 2:15 PM  | Tom Palkert              | Molex          | Economic Feasibility of Multi-fiber Lane Connectors                                  | palkert_400_03_0114.pdf    |
| 2:45 PM  | Tom Palkert              | Luxtera        | Economic Feasibility of Multi-fiber PMDs   | palkert_400_02_0114.pdf    |
| 3:15 PM  | Break                    |                |  |                            |
| 3:35 PM  | Tongong Wang             | Huawei         | Technical Feasibility of Bit multiplexing in 400GbE PMA                              | wang_400_01_0114.pdf       |
| 4:05 PM  | Dan Dove                 | Huawei         | Considering 2 km and 10 km Architectural Alternatives                                | dove_400_01_0114.pdf       |
| 4:35 PM  | Xu Yu                    | Huawei         | Feasibility for 10km SMF PMD   | yu_400_01_0114.pdf         |
| 5:05 PM  | Chris Cole               | Finisar        | 400Gb/s SMF PMD Technical Feasibility  | cole_400_01_0114.pdf       |
| 5:35 PM  | John D'Ambrosia          | Dell           | Proposed CSD   | dambrosia_400_03_0114.pdf  |
| 6:00 PM  | Discussion & Straw Polls |                |  |                            |
| 6:30 PM  | Break for Day            |                |  |                            |



# Tuesday

Note –Times listed are subject to change.

|          |                                 |                      |   |                           |
|----------|---------------------------------|----------------------|---|---------------------------|
| 8:30 AM  | John D'Ambrosia                 | Dell                 | Opening Comments  |                           |
| 8:40 AM  | Ali Ghiasi                      | Ghiasi Quantum LLC   | Evolution of 400 GbE PMD and Signaling                                    | ghiasi_400_01_0114.pdf    |
| 9:10 AM  | Xiaolu Song                     | Huawei               | Opportunities for PAM-4 Modulation  | song_400_01_0114.pdf      |
| 9:40 AM  | Tomoo Takahara                  | Fujitsu              | Technical feasibility of DMT for 400GbE SMF transmission                  | takahara_400_01_0114.pdf  |
| 10:10 AM | Break                           |                      |   |                           |
| 10:30 AM | Winston Way                     | Neophotonics         | 4x100GE through 2 and 10km SMF Using DMT and 1.3 LAN-WDM EMLs             | way_400_01_0114.pdf       |
| 11:00 AM | Patricia Bower                  | Fujitsu              | Technical feasibility of CMOS DMT transceiver for 400GbE SMF transmission | bower_400_01_0114.pdf     |
| 11:30 AM | Riu Hirai                       | Hitachi              | Proposal of new 400GbE Signaling Formats with 4λ x 100G Configuration     | hirai_400_01_0114.pdf     |
| 12:00 PM | Lunch                           |                      |   |                           |
| 1:15 PM  | Scott Kipp                      | Brocade              | Optical Module Power Estimates for 400GbE                                 | kipp_400_01_0114.pdf      |
| 1:45 PM  | Mark Bugg                       | Molex                | Technical feasibility of 400G copper interconnects                        | bugg_400_01_0114.pdf      |
| 2:15 PM  | Takeshi Nishimura               | Yamaichi Electronics | 56Gbps/ch Connector Capability on CFP2 Connector                          | nishimura_400_01_0114.pdf |
| 2:45 PM  | Discussion, Motions, Strawpolls |                      |   |                           |
| 2:45 PM  | Break                           |                      |   |                           |
| 3:05 PM  | Discussion, Motions, Strawpolls |                      |   |                           |
| 5:30 PM  | Closing Business                |                      |   |                           |
| 6:00 PM  | Adjourn                         |                      |   |                           |

# Future Meetings

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- See: <http://www.ieee802.org/3/interims/index.html>
- March 2014 Plenary
  - Week of March 16
  - Beijing, China
- May 2014 Interim (hosted by Ethernet Alliance)
  - Week of May 12
  - Sheraton Norfolk Waterside Hotel, Norfolk, VA, USA
- July 2014 Plenary
  - Week of July 13
  - Manchester Grand Hyatt, San Diego, CA, USA
- Sept 2014 Interim
  - Week of September 8
  - Brookstreet Hotel, Ottawa, Canada
- Nov 2014 Plenary
  - Week of November 2
  - Grand Hyatt San Antonio, San Antonio, TX, USA
- Anyone interested in hosting a meeting or webex contact me.

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# Thank You!