



# **Agenda and General Information**

IEEE 802.3

**25 Gb/s Ethernet over a single lane  
for server interconnect Task Force**

Mark Nowell, Cisco

Atlanta, Jan 12<sup>th</sup>-14<sup>th</sup>, 2015

# Agenda

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- Appointment of Recording Secretary
- Confirmation of Chair
- Welcome and Introductions
- Approve Agenda
- Approve Minutes
- Reflector and Web
- Ground Rules
- IEEE
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Liaisons and Communications
- Goals for this meeting
- Big Ticket Items
- Presentations
- Motions and Closing Business
- Future Meetings

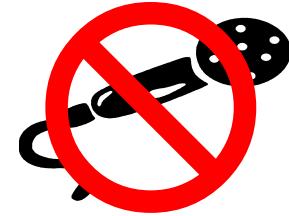
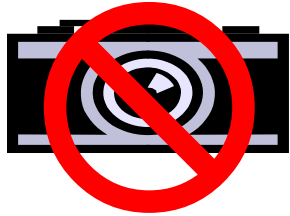
# P802.3by Task Force organization

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- Chair: Mark Nowell, Cisco
- Recording Secretary: Kent Lusted, Intel
- Chief Editor: Matt Brown, APM
- Ad hoc chairs:
  - Optical: Jonathan King, Finisar
  - Architecture, Matt Brown, APM

# Task Force Decorum

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- 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

# Reflector and Web

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- To subscribe to the 25Gb/s Ethernet Task Force reflector, send an email to:

**ListServ@ieee.org**

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

*subscribe stds-802-3-25G <yourfirstname> <yourlastname>  
end*

- Send 25Gb/s Ethernet reflector messages to:

**stds-802-3-25G@listserv.ieee.org**

- Task Force web page URL:

**<http://www.ieee802.org/3/by/index.html>**

# Ground Rules

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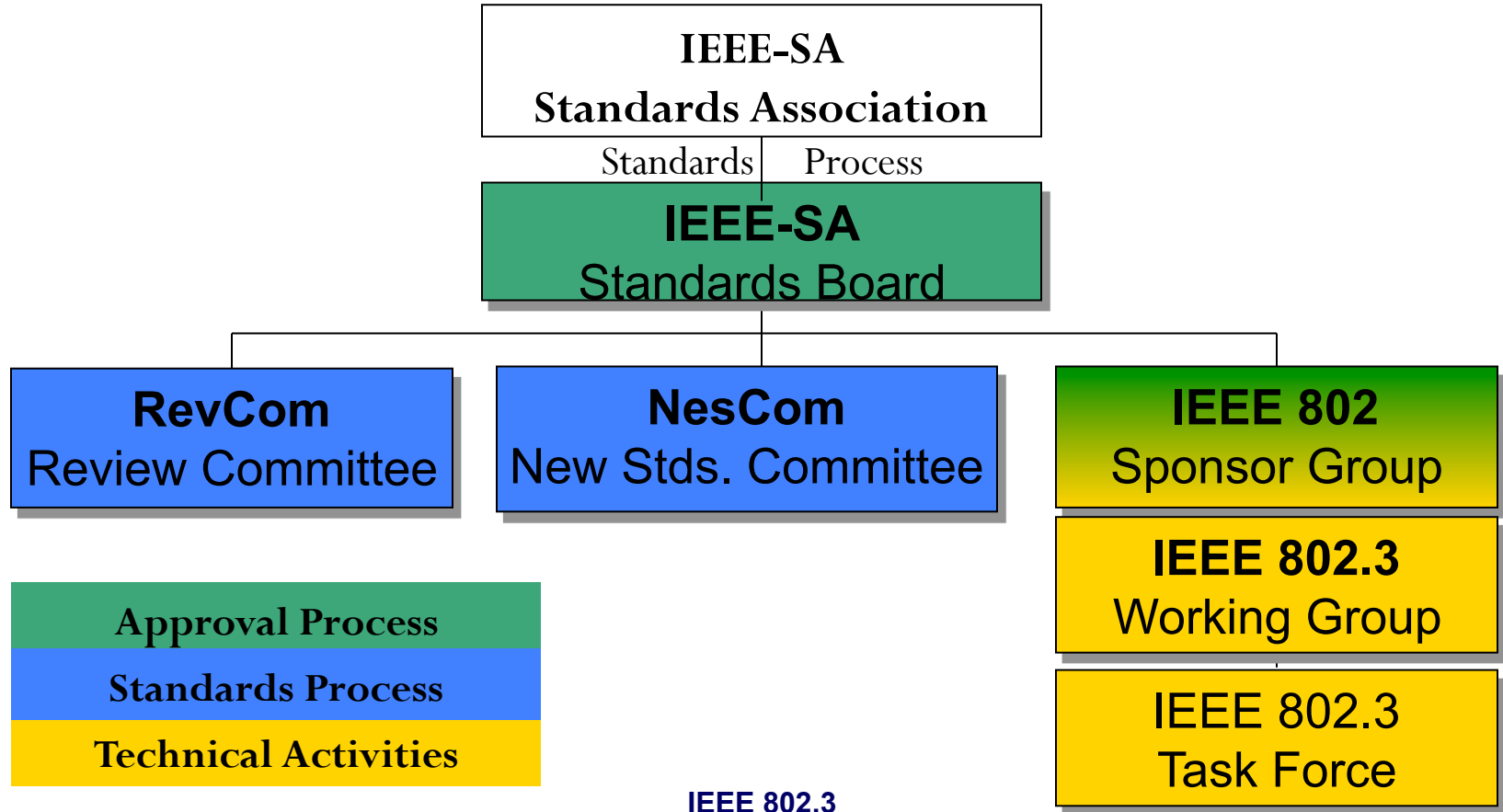
- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone in the room may speak
  - Anyone in the room may vote
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- NO restrictive notices

# 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/>
  - Password: \*\*\*

# 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)

# Participants, Patents, and Duty to Inform

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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**

# Patent Related Links

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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](mailto: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>

# 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

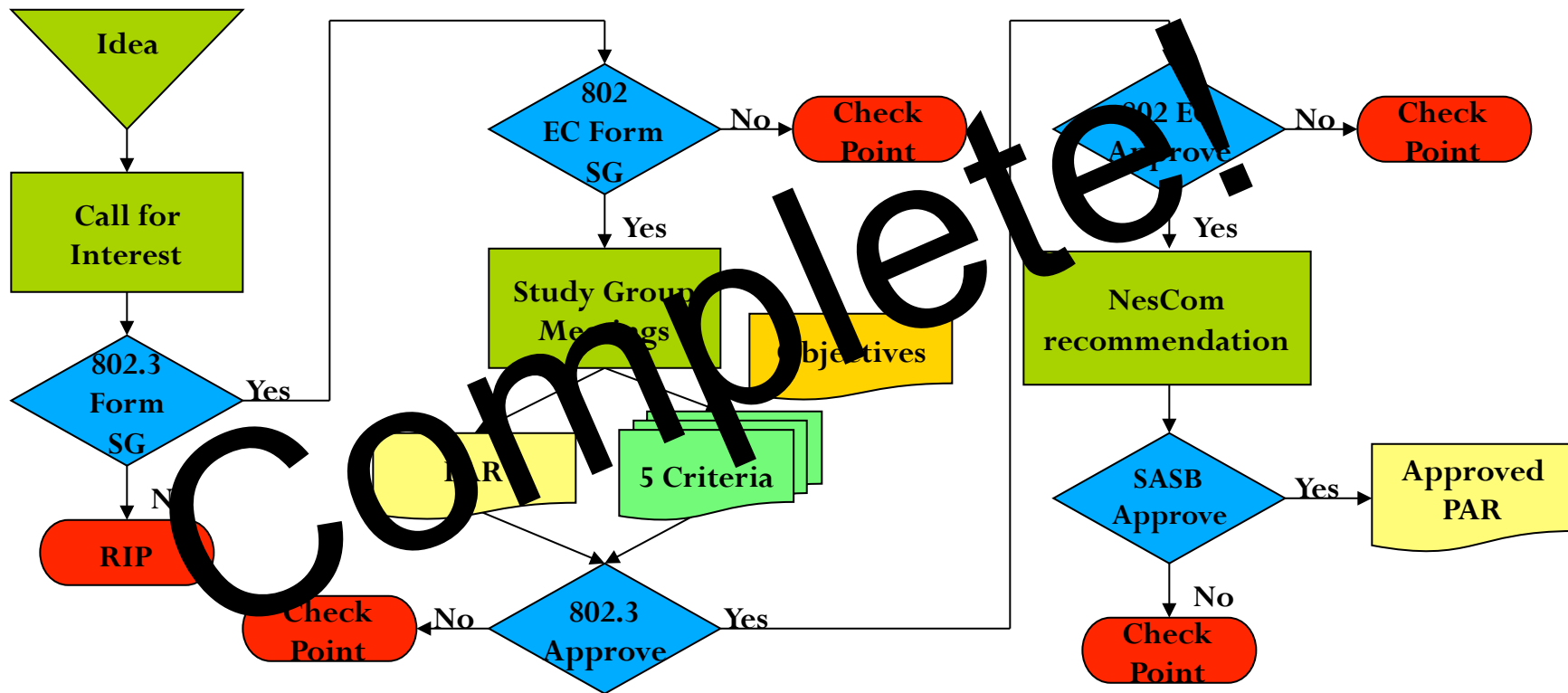
# Other Guidelines for IEEE WG Meetings

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- **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.**

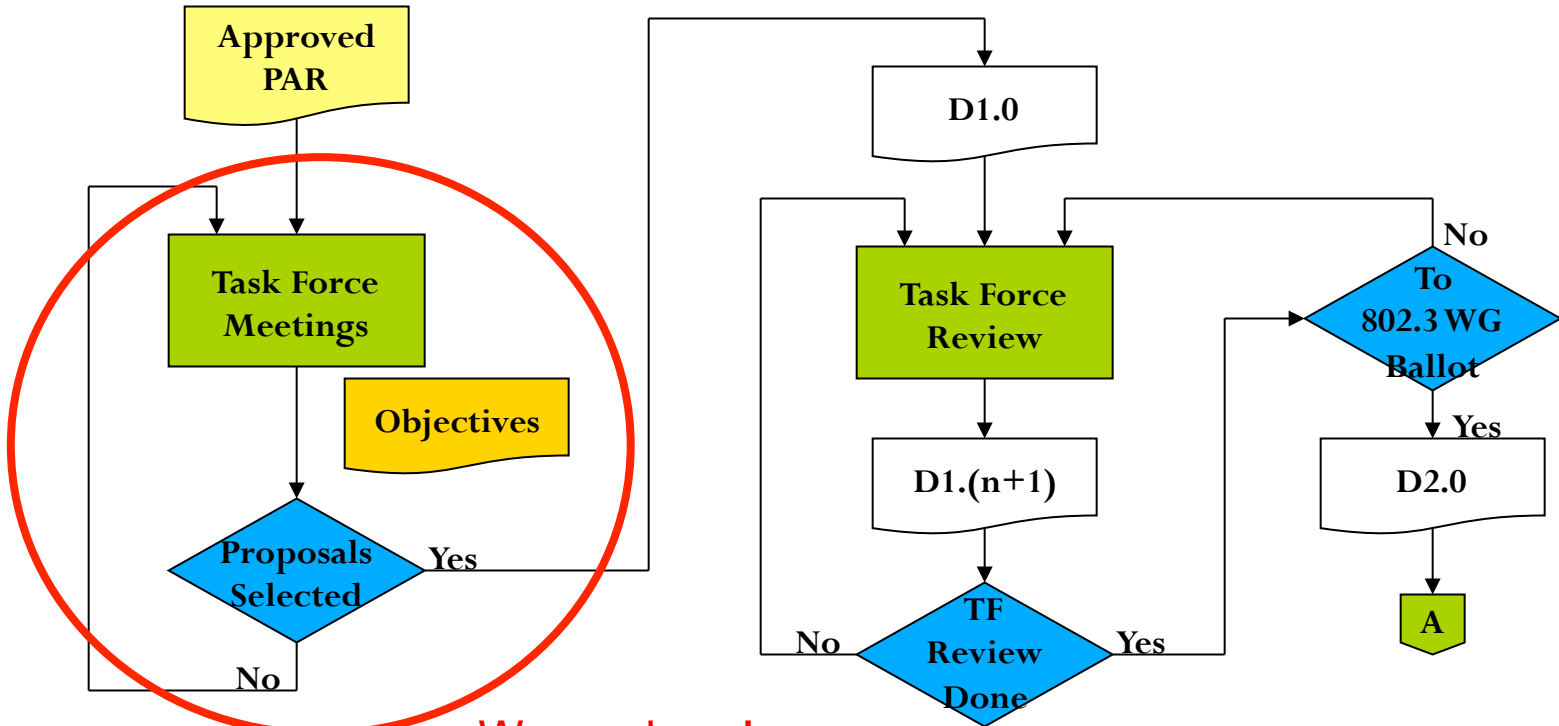
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See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy” for more details.

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



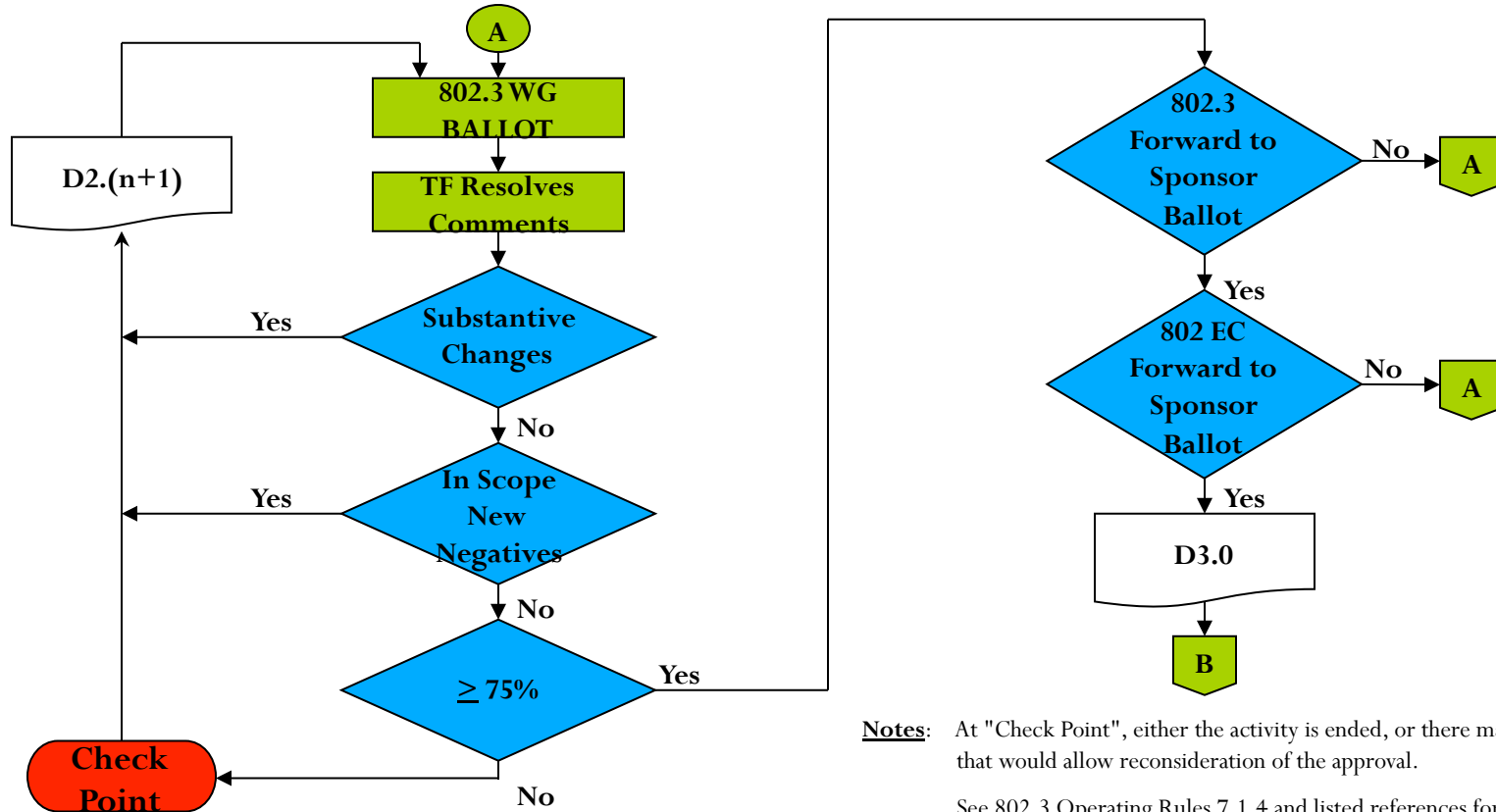
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



We are here!

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

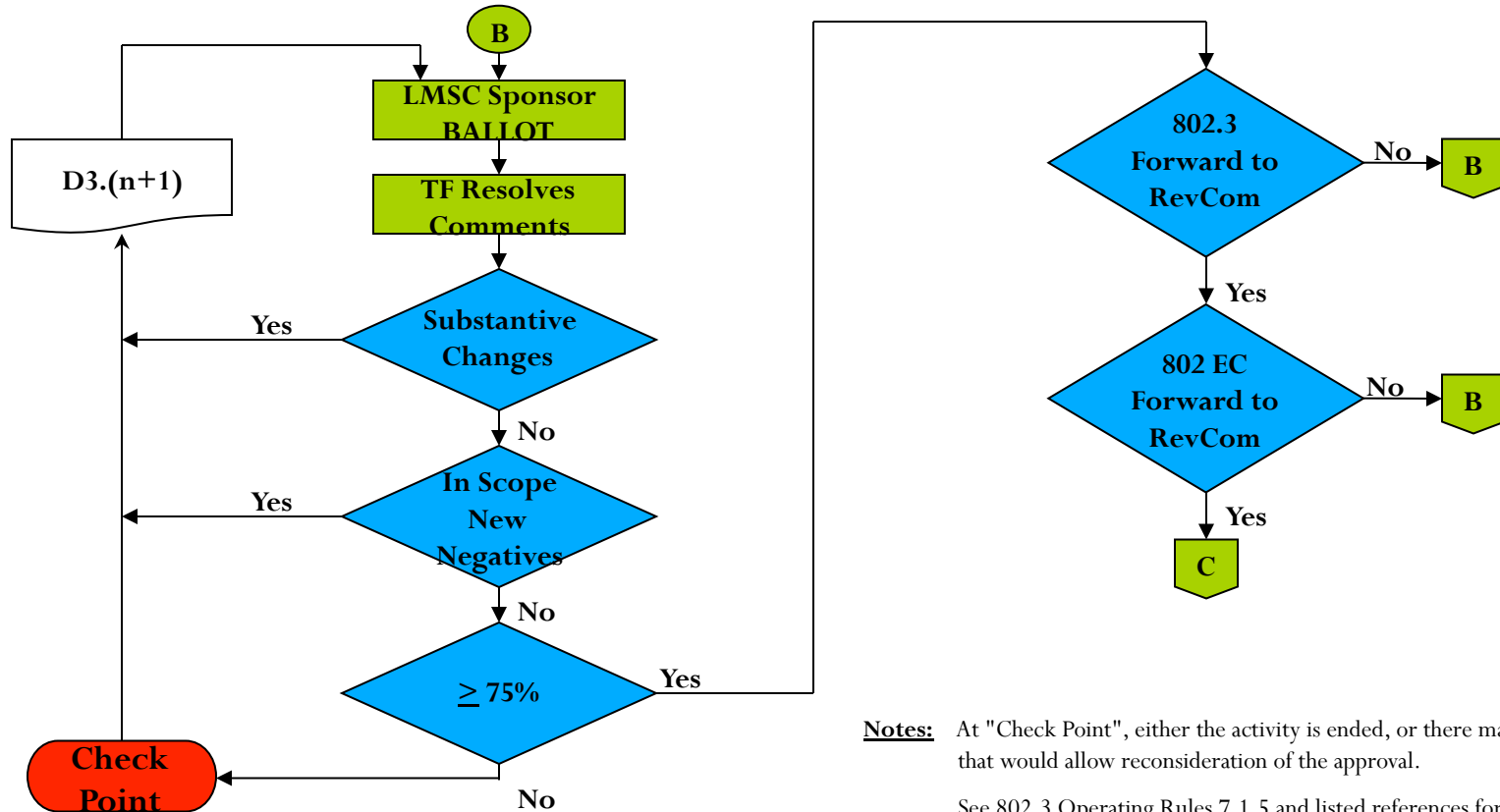


**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.4 and listed references for complete description



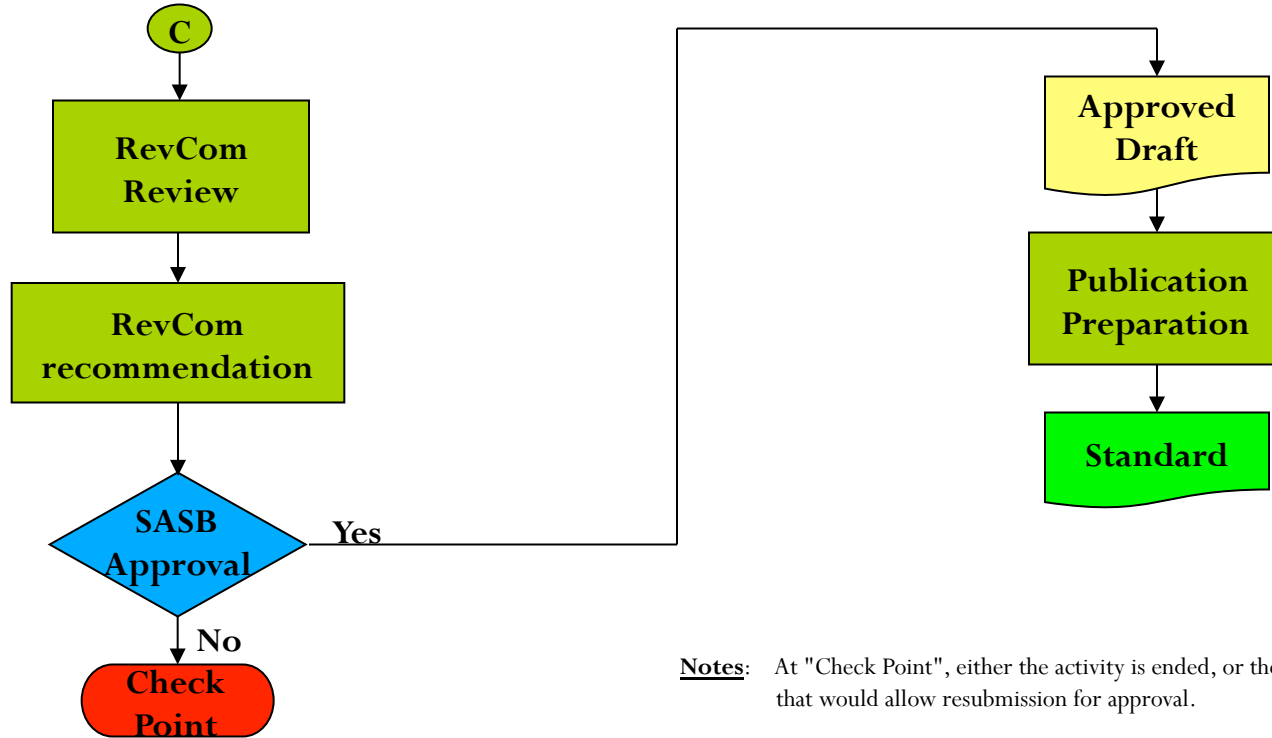
# Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



**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

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- None

# IEEE P802.3by 25 Gb/s Ethernet Task Force

## Approved Project Documents

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- PAR

- [http://www.ieee802.org/3/by/P802\\_3by\\_PAR\\_approved\\_121214.pdf](http://www.ieee802.org/3/by/P802_3by_PAR_approved_121214.pdf)

- CSD

- [http://www.ieee802.org/3/by/P802\\_3by\\_CSD.pdf](http://www.ieee802.org/3/by/P802_3by_CSD.pdf)

- Objectives

- [http://www.ieee802.org/3/by/P802\\_3by\\_Objectives.pdf](http://www.ieee802.org/3/by/P802_3by_Objectives.pdf)

# IEEE P802.3by 25Gb/s Ethernet TF Objectives

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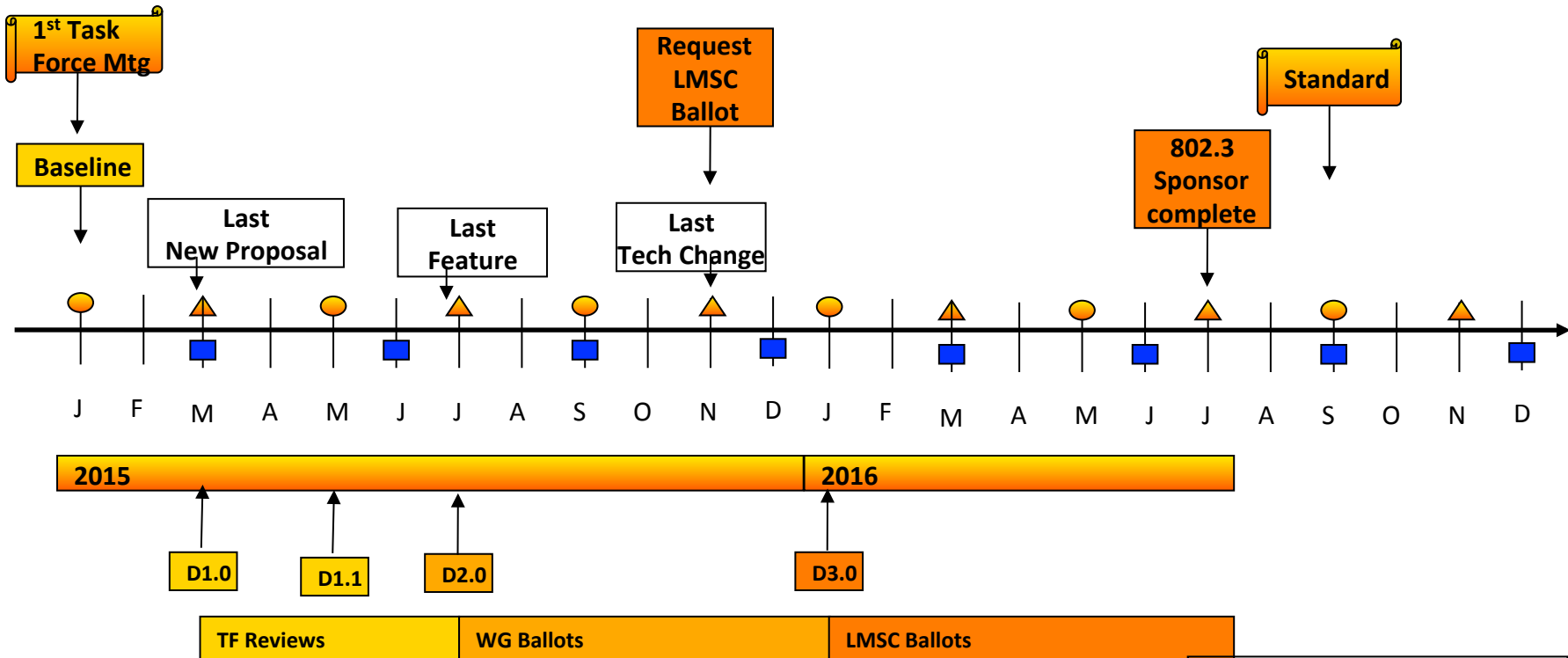
- Support a MAC data rate of 25 Gb/s
- Support full-duplex operation only
- Preserve the Ethernet frame format utilizing the Ethernet MAC
- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- Support a BER of better than or equal to  $10^{-12}$  at the MAC/PLS service interface (or the frame loss ratio equivalent)
- Support optional Energy-Efficient Ethernet operation
- Define a single-lane 25 Gb/s PHY for operation over a printed circuit board backplane consistent with channels specified in IEEE Std 802.3bj-2014 Clause 93
- Define a single-lane 25 Gb/s PHY for operation over links consistent with copper twin axial cables, with lengths up to at least 3m
- Define a single-lane 25 Gb/s PHY for operation over links consistent with copper twin axial cables, with lengths up to at least 5m
- Define a single-lane 25 Gb/s PHY for operation over MMF consistent with IEEE P802.3bm Clause 95
- Provide appropriate support for OTN

# 25 Gb/s Ethernet Nov Plenary Meeting summary

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- Excellent progress:
  - Full set of objectives adopted by 802.3 WG
  - All Criteria for Standards Development responses completed and adopted by 802.3 WG
  - Project Authorization Request completed and adopted by 802.3 WG
- Approval at Standards Board in Dec
  - We're now a task force!

# IEEE P802.3by Task Force Timeline\*



\* unapproved

**Legend**

- ▲ IEEE 802 Plenary
- IEEE 802.3 Interim
- IEEE-SA Standards Board

# Goals for the meeting

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- Task Force level setting
- Hear technical presentations
- Adopt timeline
- Adopt baseline proposals...
- Identify steps moving forward



# Presentations – Monday Jan 12th

<u>Time</u>	<u>Presenter</u>	<u>Affiliation</u>	<u>Title</u>	<u>File Name</u>
9:00 AM	Mark Nowell	Cisco	Agenda and General Information	agenda_3by_01_0115.pdf
9:45 AM	Matt Brown	APM	25 Gb/s Ethernet Architecture Ad-hoc report	brown_3by_01_0115.pdf
9:55 AM	Jonathan King	Finisar	25 Gb/s Ethernet Optical Ad-hoc report	king_3by_01_0115.pdf
9:55 AM	Pete Anslow	Ciena	The road to a completed standard	anslow_3by_01_0115.pdf
10:05 AM	Matt Brown	APM	802.3by Draft Considerations	brown_3by_02_0115.pdf
10:25 AM			<b>Break</b>	
10:40 AM	Kent Lusted	Intel	Nomenclature Consensus Building	lusted_3by_01_0115.pdf
10:55 AM	Steve Trowbridge	Alcatel-Lucent	OTN Support for 25GbE	trowbridge_3by_01_0115.pdf
11:10 AM	Jonathan King	Finisar	25GE 100m MMF reach objective baseline proposal	king_3by_02_0115.pdf
11:40 AM			<b>Lunch</b>	
12:45 PM	Eric Baden	Broadcom	Baseline proposal for RS, PCS, and FEC layers for 25G Ethernet	baden_3by_01_0115.pdf
1:30 PM	Matt Brown	APM	25GE PMA sublayer baseline proposal	brown_3by_03_0115.pdf
1:50 PM	Arthur Marris	Cadence	Energy Efficient Ethernet (EEE) for 802.3by	marris_3by_02_0115.pdf
2:20 PM			<b>Break</b>	
2:40 PM	Venugopal Balasubramonian	Marvell	Auto-negotiation for 25G CR cables	balasubramonian_3by_01_0115.pdf
3:00 PM	Arthur Marris	Cadence	Candidate baseline proposal for auto-negotiation for 802.3by	marris_3by_01_0115.pdf
3:30 PM	Tom Palkert	Molex	XXVAUI updates	palkert_3by_01_0115.pdf
3:50 PM	Tom Palkert	Molex	Proposed Baseline text for: Chip-to-chip 25 Gb/s one-lane Attachment Unit Interface (XXVAUI)	palkert_3by_02_0115.pdf
4:10 PM	Adee Ran	Intel	A baseline proposal for 25GBASE-KR PMD	ran_3by_01_0115.pdf
4:30 PM			Discussion	
5:00 PM			<b>Break</b>	

Note –  
Times listed  
are subject  
to change.

Updated  
versions will  
be captured  
with new  
filename  
versions

# Presentations – Tues/Wed Jan 13/14th

Tuesday	<u>Time</u>	<u>Presenter</u>	<u>Affiliation</u>	<u>Title</u>	<u>File Name</u>
<u>13-Jan-15</u>	9:00 AM	Mark Nowell	Cisco	Opening	
	9:10 AM	Mike Andrewartha	Microsoft	Use Cases for no-FEC on Short Cables	andrewartha_3by_01_0115.pdf
	9:30 AM	Phil Sun	Marvell	Link budget for the 3m passive cable objective	sun_3by_01_0115.pdf
	9:50 AM	Richard Mellitz	Intel	Moving towards Tx and Rx cable COM related CR baseline proposals	mellitz_3by_01_0115.pdf
	10:20 AM			<b>Break</b>	
	10:40 AM	Chris Diminico	MC Communications	802.3by Cable Assembly Baseline	diminico_3by_01_0115.pdf
	11:00 AM	Chris Diminico	MC Communications	802.3by Test Fixtures Baseline	diminico_3by_02_0115.pdf
	11:20 AM	Erdem Matoglu	Amphenol	Analysis of 32AWG, 30AWG, 26AWG copper cables with Clause 74 FEC, Clause 91 FEC, and non-FEC conditions.	matoglu_3by_01_0115.pdf
	11:40 AM			<b>Lunch</b>	
	12:40 PM			Discussions, Straw Polls, Motions	
	5:10 PM			<b>Break (possibly adjorn)</b>	

Wednesday	<u>Time</u>	<u>Presenter</u>	<u>Affiliation</u>	<u>Title</u>	<u>File Name</u>
<u>14-Jan-15</u>	9:00 AM	Mark Nowell	Cisco	Opening	
	9:10 AM			Discussions, Straw Polls, Motions (if necessary)	
	11:40 AM			<b>Adjorn</b>	

Note –Times listed are subject to change.

Updated versions will be captured with new filename versions

**IEEE 802.3**

# Future Meetings & Ad hocs

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- Ad-hoc meeting plans
  - Single on-going weekly meetings, all topics (will cycle) – agendas will be published. 90 mins duration.
  - Wed 8-9:30 Pacific
- See: <http://www.ieee802.org/3/interims/index.html>
- March 2015 Plenary
  - Berlin, Germany
  - Mar 9-12<sup>th</sup>, 2015
- May 2015 Interim
  - Pittsburgh, Pa
  - Week of May 18<sup>th</sup>, 2015
- Anyone interested in hosting a interim meeting contact me or the IEEE 802.3 Executive Secretary Steve Carlson.

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# Thank You!