



Agenda and General Information

IEEE 802.3

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

Mark Nowell, Cisco

Pittsburgh, May 20th-22th, 2015

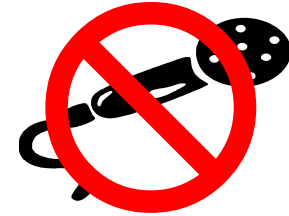
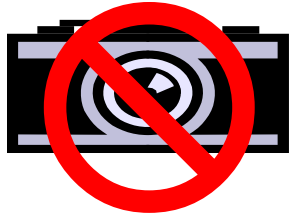
Agenda

- 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
- Meeting Schedule
- Motions and Closing Business
- Future Meetings

P802.3by Task Force organization

- 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



- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (December 2013 IEEE-SA Standards Board Ops Manual 5.3.3.3)
- Photography or recording by permission only (December 2014 IEEE-SA Standards Board Ops Manual 5.3.3.2)
- 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

- 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>

Task Force Private Area

- URL: <http://www.ieee802.org/3/by/private/index.html>
 - Username: 802.3by
 - Password: ****
- Write it down...
- 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.

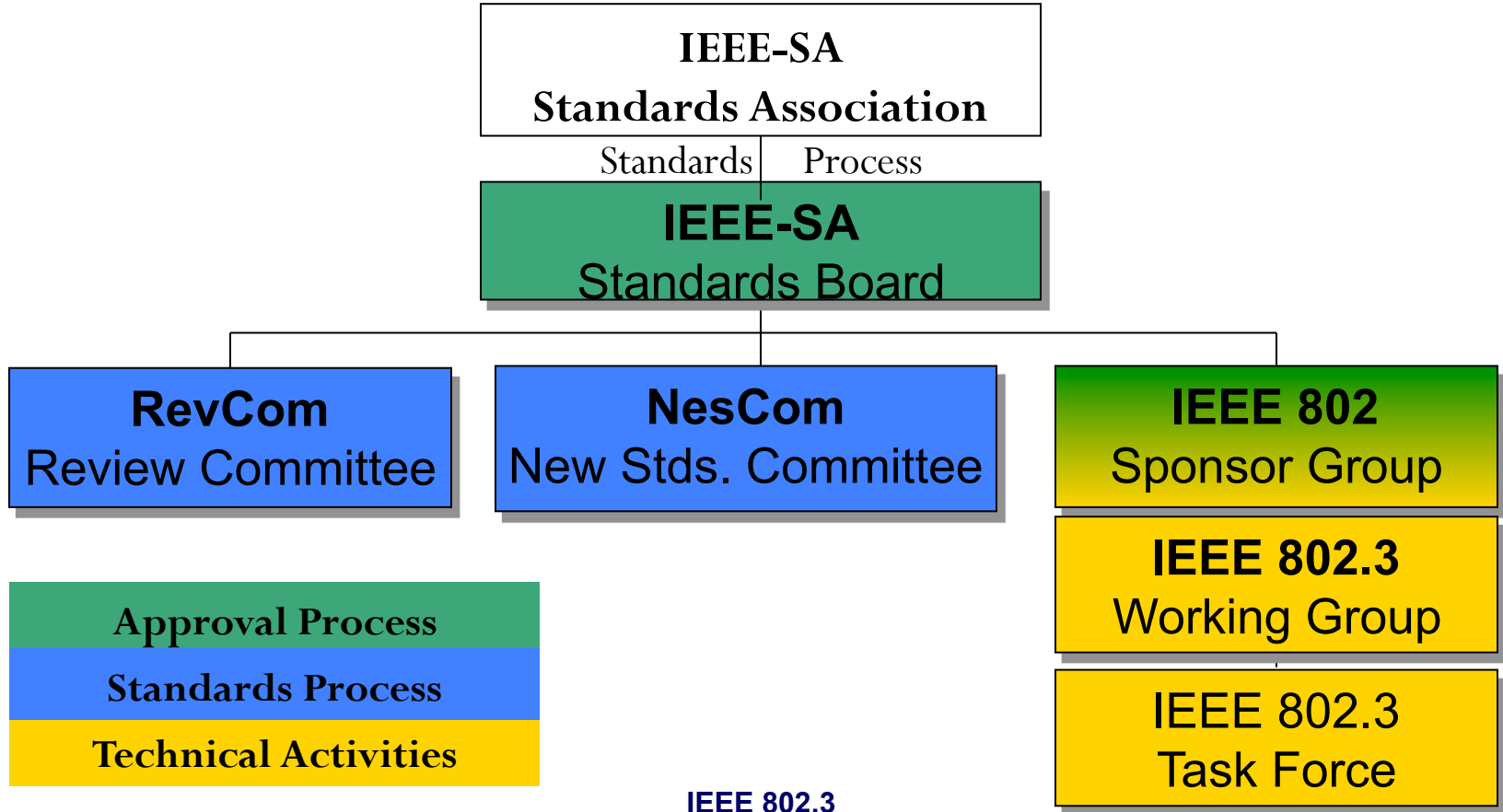
Ground Rules

- 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/>
 - Use your imat login
 - (must be on meeting SSID – no VPN)

IEEE Structure



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

Participants, Patents, and Duty to Inform

New

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
 - “Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of 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

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](http://standards.ieee.org/about/sasb/patcom/index.html)**

Call for Potentially Essential Patents

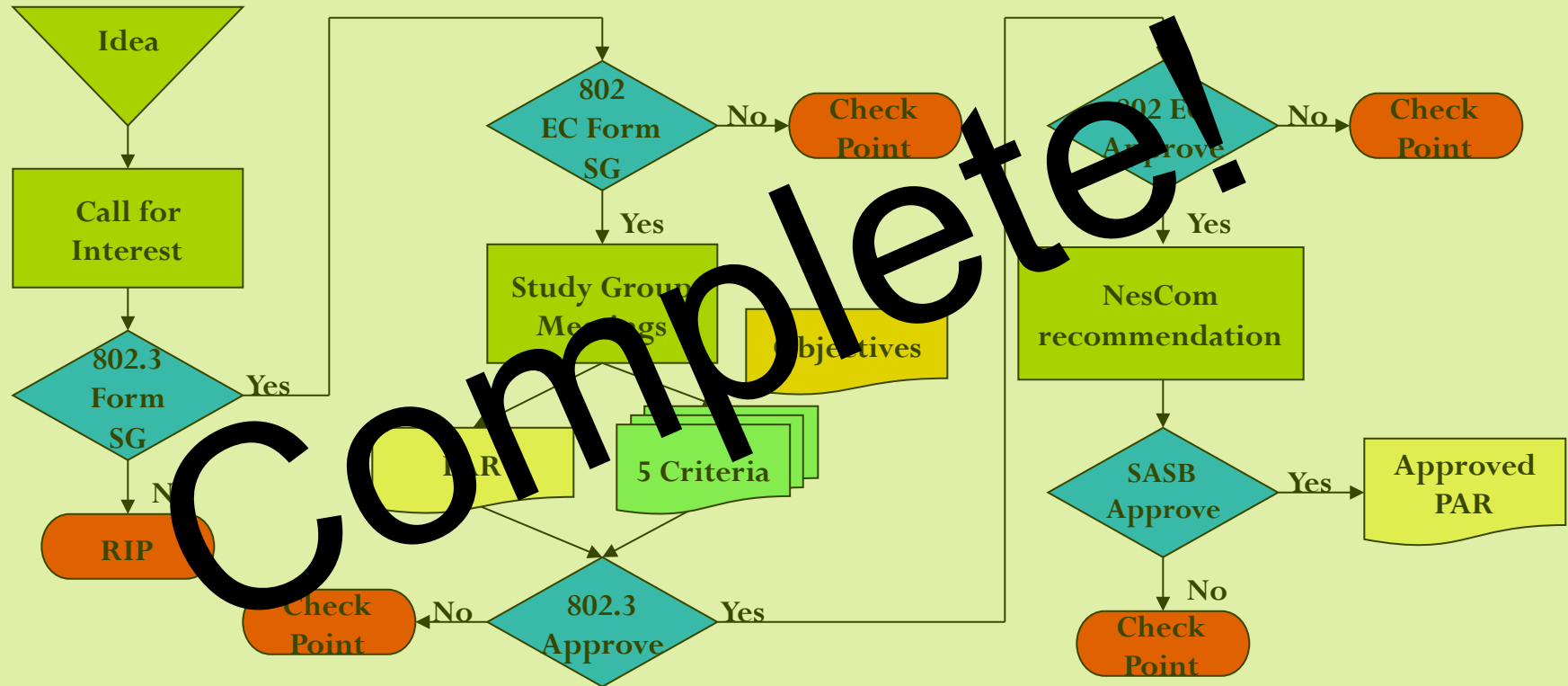
- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
 - Either speak up now or
 - Provide 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

- **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.**

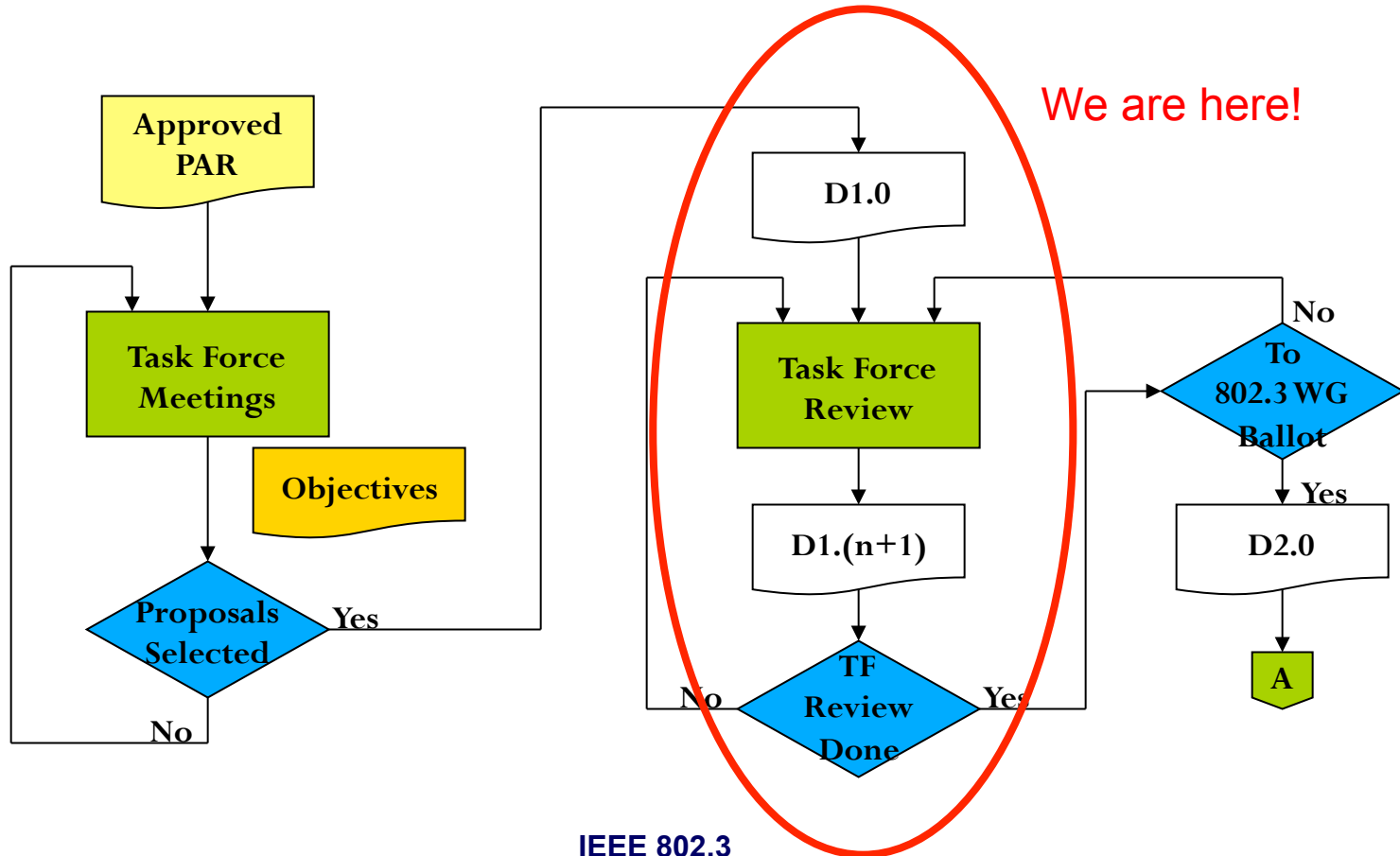
See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy” for more details.

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

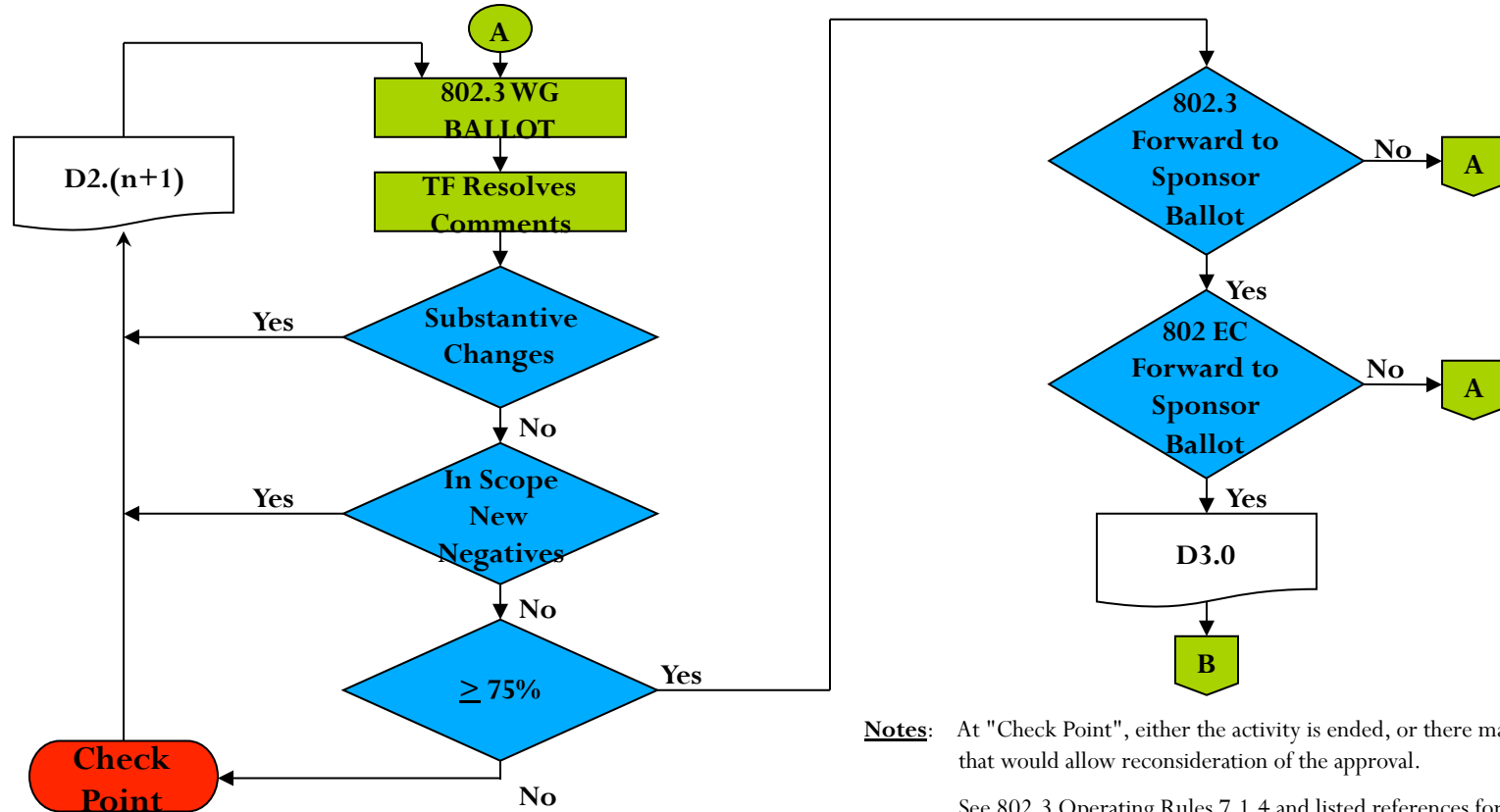


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



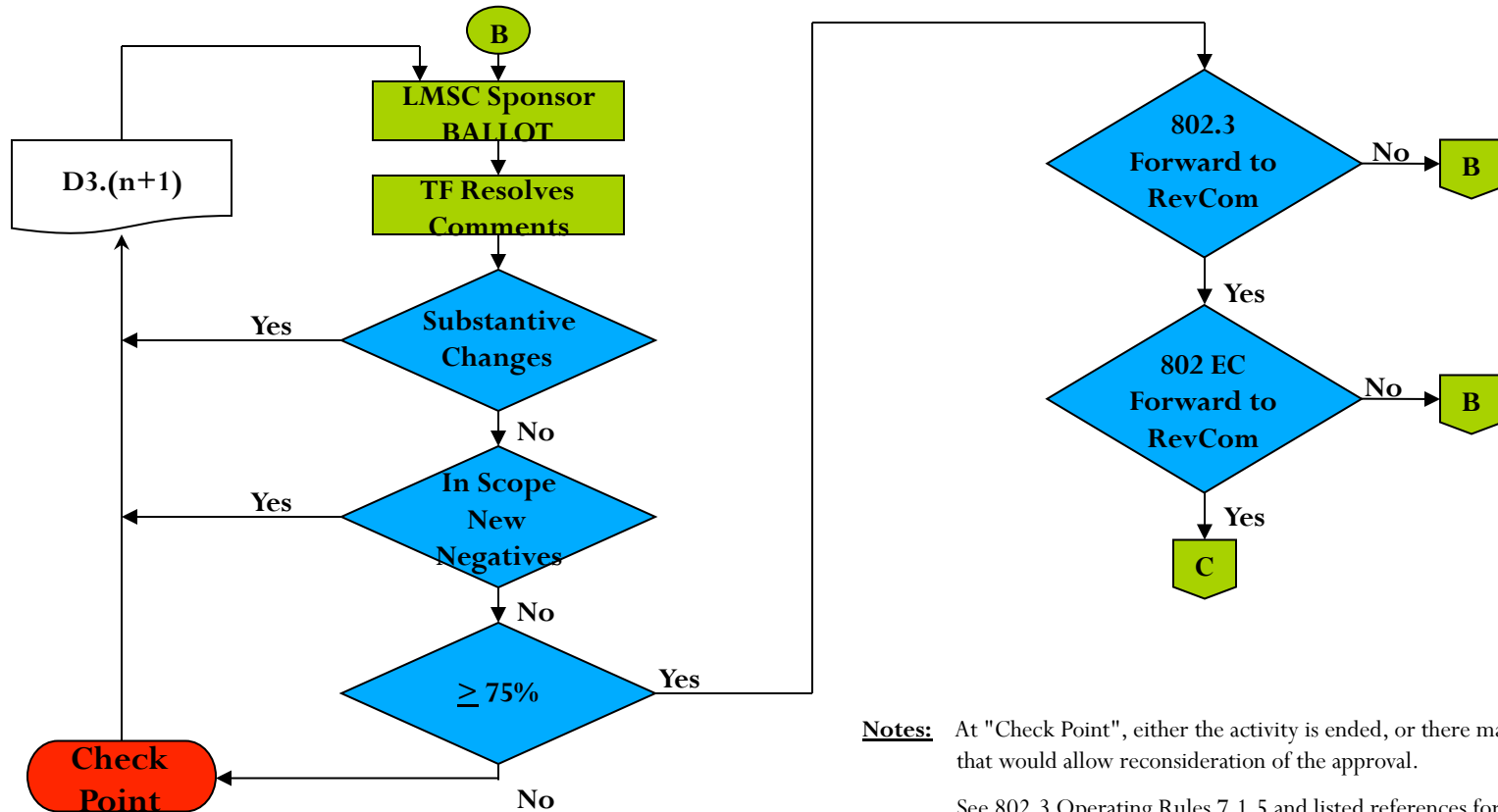
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

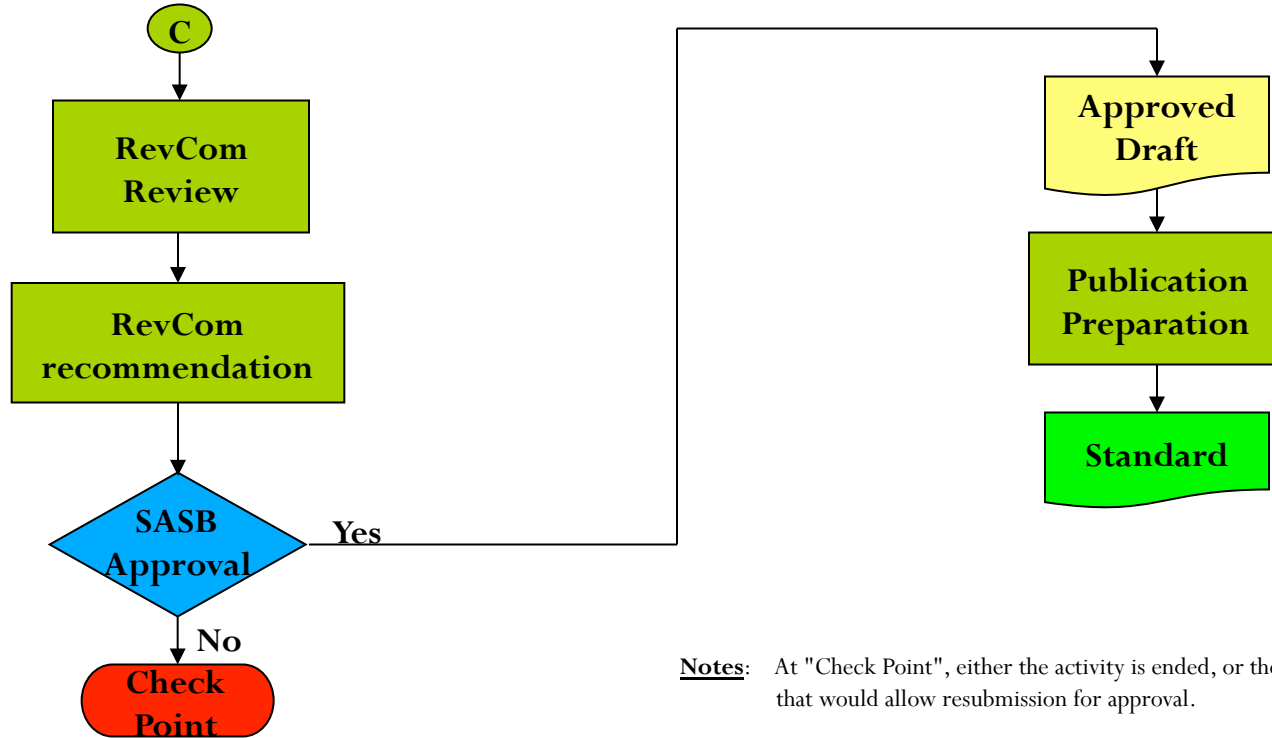
Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



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

- None received
- One to be generated per Motion #5 at Berlin 3/15 Meeting minutes:
Move to:
 - *adopt the PHY type approach outlined on page 5 of dudek_3by_01b_0315.pdf. This defines both 25GBASE-CR and 25GBASE-CR-S PHY types.*
 - *create an informal communication to the SFF committee to inform them of our decision*

See dove_3by_01_0515.pdf

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

Approved Project Documents

- PAR

- http://www.ieee802.org/3/by/P802_3by_PAR_approved_121214.pdf

- CSD

- http://www.ieee802.org/3/by/P802_3by_CSD.pdf

- Objectives

- http://www.ieee802.org/3/by/P802_3by_Objectives.pdf

- Timeline

- http://www.ieee802.org/3/by/approved_timeline_3by.pdf

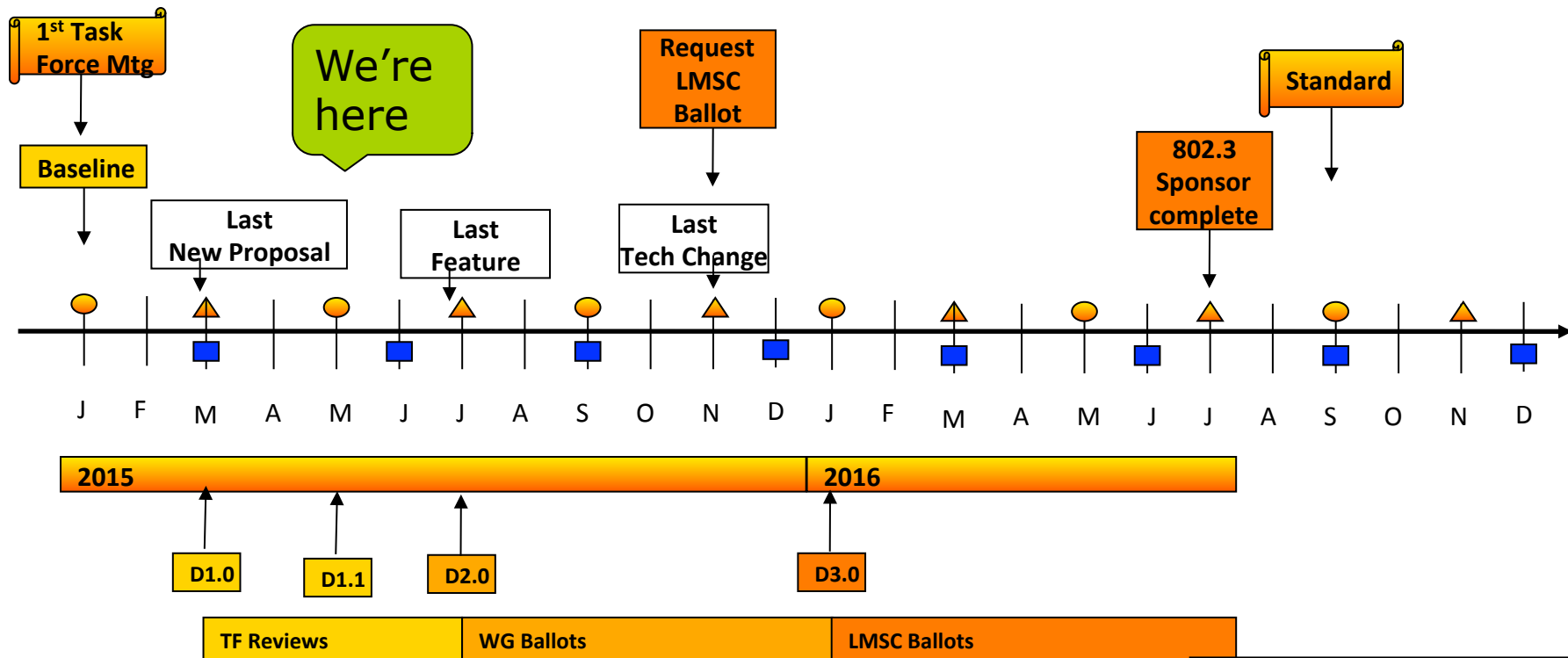
IEEE P802.3by 25Gb/s Ethernet TF Objectives

- 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

P802.3by March Meeting summary

- Excellent progress:
 - All D0.1 comments resolved
 - Big decisions made:
 - Decision on PHY type naming strategy
 - Adopted Auto-neg proposal
 - Adopted EEE proposal
 - Created CA-N cable type for no-FEC operation
- Close rejection:
 - CWM removal

IEEE P802.3by Task Force Timeline*



* Adopted Jan, 2015

Legend
▲ IEEE 802 Plenary
● IEEE 802.3 Interim
■ IEEE-SA Standards Board

Goals for the meeting

- Review D1.0 comments and resolve
- Big ticket item closure
 - FEC/PCS topics (CWM removal, EEE)
 - 3m Cable operation without FEC
- Decisions and motions
- Direct editorial team to generate D1.1

Big Ticket Items – decisions needed

- CWM removal – Change RS-FEC delineation to scramble and test approach (*slavick_3by_01_0515, baden_3by_01_0515*)
- 3m cable operation with no FEC - Can we justify operation without FEC? Then do we add or reduce number of cables supported? (*sun_3by_01_515, mellitz_3by_01_515, roth_3by_01_515, brown_3by_04_515*)
- EEE – adoption of Rapid CWMs to address issues with current fast lock mechanism (*cober_3by_01_515*)
- 25G-AUI – Extend 1e-6 module specification to host? Retain 1e-15 module specification as well? (*dawe_3by_01_515, brown_3by_05_515*)

Meeting Schedule

Wednesday	Time	Presenter	Affiliation	Title	File Name	Duration
<u>20-May-15</u>	1:00 PM	Mark Nowell	Cisco	Agenda and General Information	agenda_3by_01_0515.pdf	0:30
	1:30 PM	Matt Brown	APM	25 Gb/s Ethernet Architecture Ad-hoc report	brown_3by_01_0515.pdf	0:05
	1:35 PM	Matt Brown	APM	Chief Editor's Report	brown_3by_02_0515.pdf	0:10
	2:00 PM	Phil Sun	Marvell	MTTFPA considerations for 25GbE no-FEC operation	sun_3by_01_0515.pdf	0:15
	2:15 PM	Rich Mellitz	Intel	Parameters for 3 meter non-FEC cable and 4 meter BASE-R FEC cable	mellitz_3by_01_0515.pdf	0:20
	2:35 PM	Chris Roth	Molex	Proposed COM changes	roth_3by_01_0515.pdf	0:20
	2:55 PM	Matt Brown	APM	Two cable types for 25GBASE-CR and 25GBASE-CR-S	brown_3by_04_0515.pdf	0:20
	3:15 PM	Break				0:15
	3:30 PM	Discussion & Decide				0:20
	3:50 PM	Matt Brown	APM	25G-AUI considerations	brown_3by_05_0515.pdf	0:10
	4:00 PM	Piers Dawe	Mellanox	Two ways of showing 25G-AUI compliance	dawe_3by_01_0515.pdf	0:20
	4:20 PM	Comment resolution				1:45
	6:05 PM	Break				1:30
	7:35 PM	Comment Resolution				TBD
	TBD	Break				

Note –
Times listed
are subject
to change.

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be captured
with new
filename
versions

Meeting Schedule

Thursday
21-May-15

<u>Time</u>	<u>Presenter</u>	<u>Affiliation</u>	<u>Title</u>	<u>File Name</u>	<u>Duration</u>
8:00 AM	Mark Nowell	Cisco	Opening		0:10
8:10 AM	Don Cober	CoMira Solutions	RCWMS in RSFEC EEE	cober_3by_01_0515.pdf	0:30
8:40 AM	Jeff Slavick	Avago	Support of comments #169 & #171	slavick_3by_01_0515.pdf	0:30
9:10 AM	Eric Baden	Broadcom	CWMs in 802.3by	baden_3by_01_0515.pdf	0:30
9:40 AM	Eric Baden	Broadcom	AM0 Selection in 802.3by (Comment #68)	baden_3by_02_0515.pdf	0:15
9:55 AM	Adee Ran	Intel	hi_ber parameters	ran_3by_01_0515.pdf	0:20
10:15 AM	Break				0:15
10:30 AM	Discussion & Decide				0:30
11:00 AM	Comment resolution				1:00
12:00 PM	Lunch				1:00
1:00 PM	Comment resolution				2:00
3:00 PM	Break				0:15
3:15 PM	Comment resolution				1:45
5:00 PM	Dinner break (or room change)				TBD
TBD	Comment resolution				TBD
TBD	Break				

Friday
22-May-15

<u>Time</u>	<u>Presenter</u>	<u>Affiliation</u>	<u>Title</u>	<u>File Name</u>	<u>Duration</u>
8:00 AM	Mark Nowell	Cisco	Opening		0:10
8:10 AM	Dan Dove	Dove Networking	Proposed IC to SFF committee	dove_3by_01_0515.pdf	0:15
8:25 AM	Comment resolution				3:05
11:30 AM	Lunch				1:00
	Comment Resolution completion				TBD
	Closing business and motions				
TBD	Adjorn				

IEEE 802.3

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versions

Future Meetings & Ad hocs

- 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/meeting/index.html>
- July 2015 Plenary
 - July 12-17, 2015. Waikoloa, Hawaii
- Sept 2015 Interim
 - Week of Sept 14th, 2015. Bonita Springs, Florida
- November 2015 Plenary
 - Nov 8-13th, 2015. Dallas, Tx
- Jan 2016 Interim
 - Week of Jan 18th, 2016. Atlanta, GA
- Anyone interested in hosting a interim meeting contact me or the IEEE 802.3 Executive Secretary Steve Carlson.



Thank You!