



Agenda and General Information

IEEE 802.3

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

Mark Nowell, Cisco

Bonita Springs, FL, USA

Sept 16th-18th, 2015

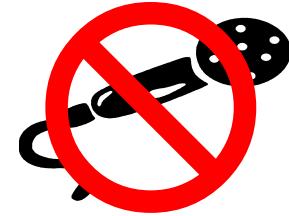
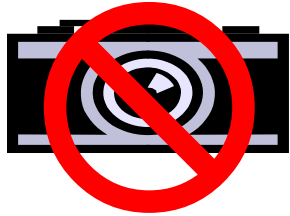
Agenda

- 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 5.3.3.5)
- 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

- 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.

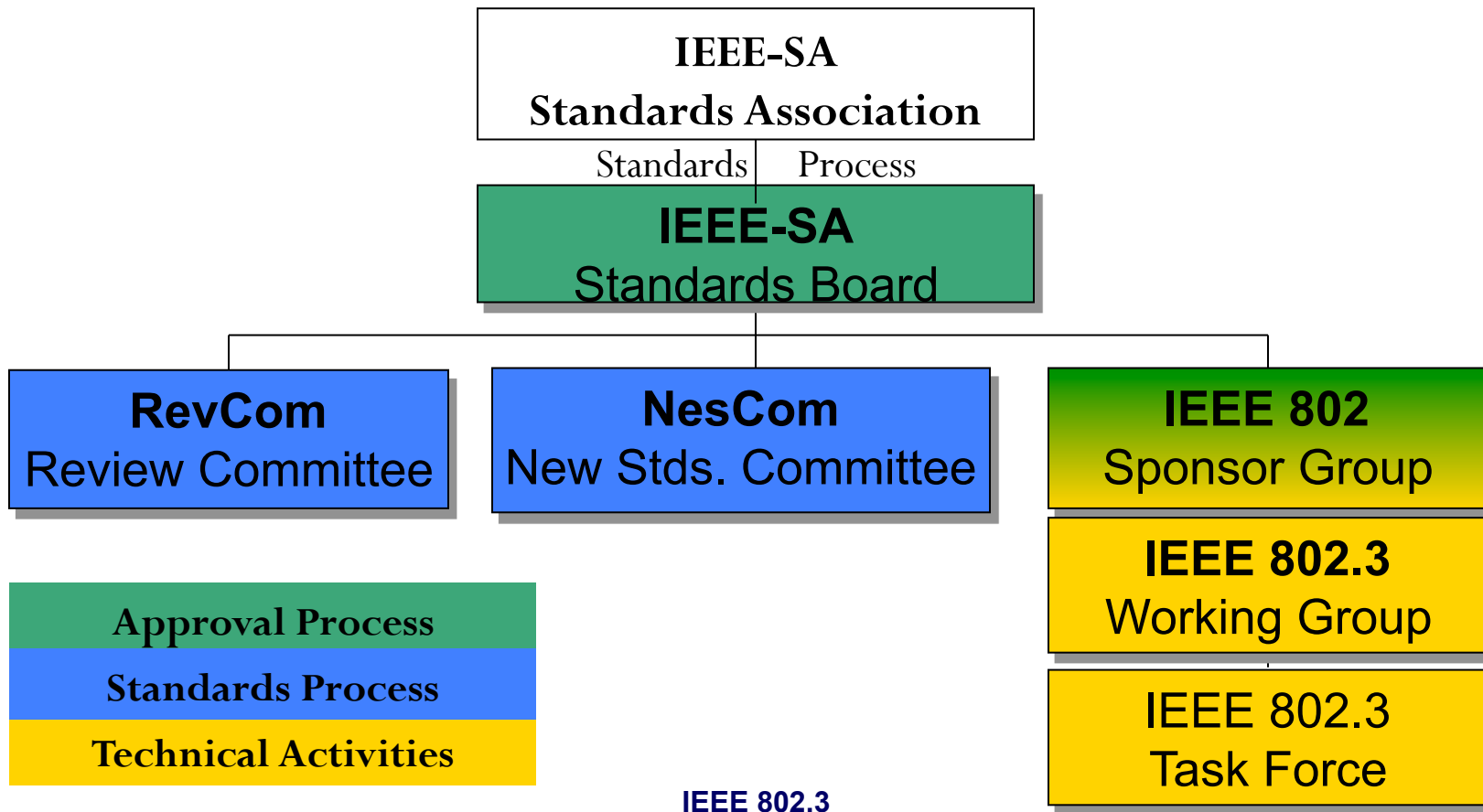
Ground Rules

- 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>

Call for Potentially Essential Patents

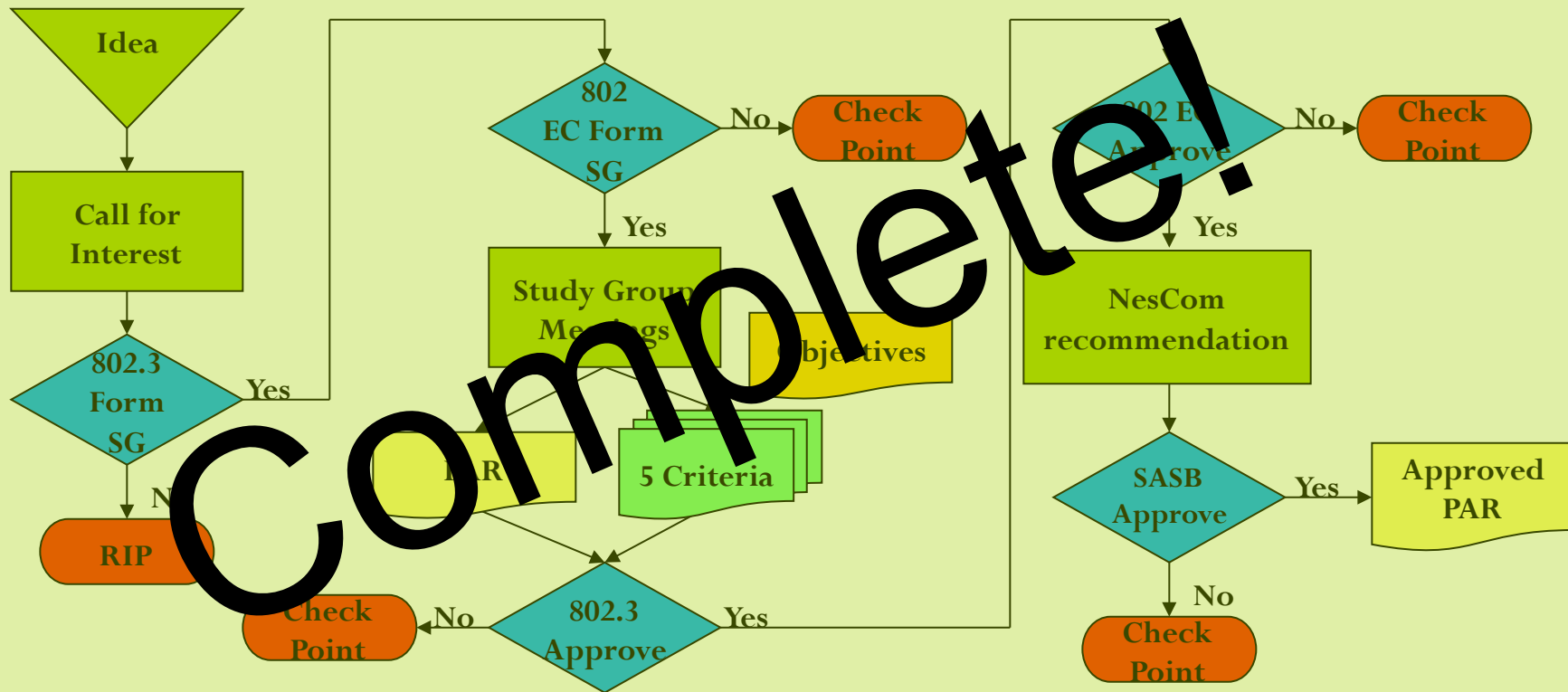
- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:
 - Either speak up now or
 - Provide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

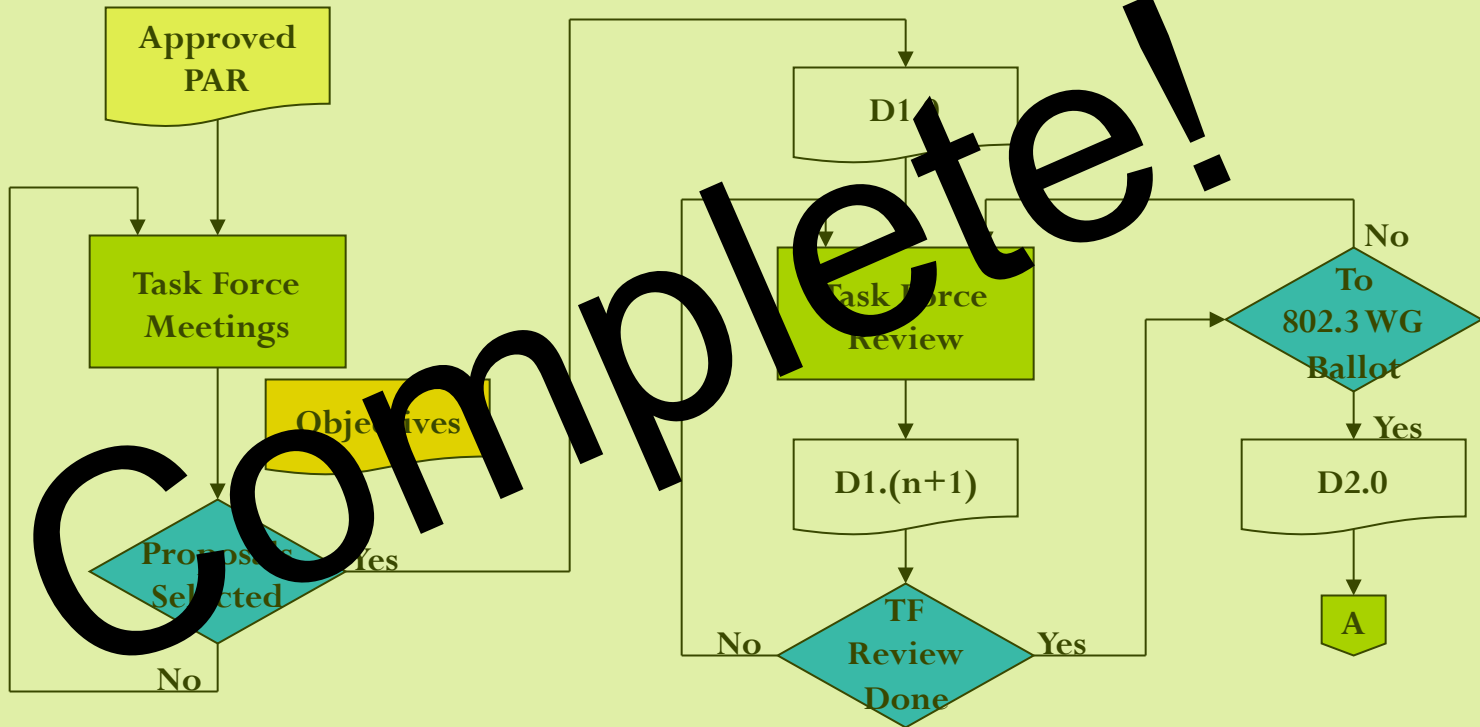
See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and “Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy” for more details.

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

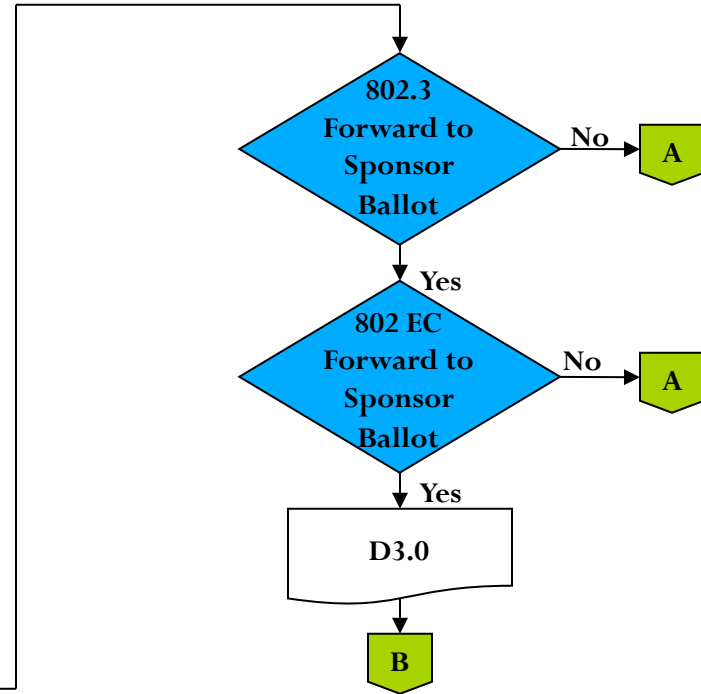
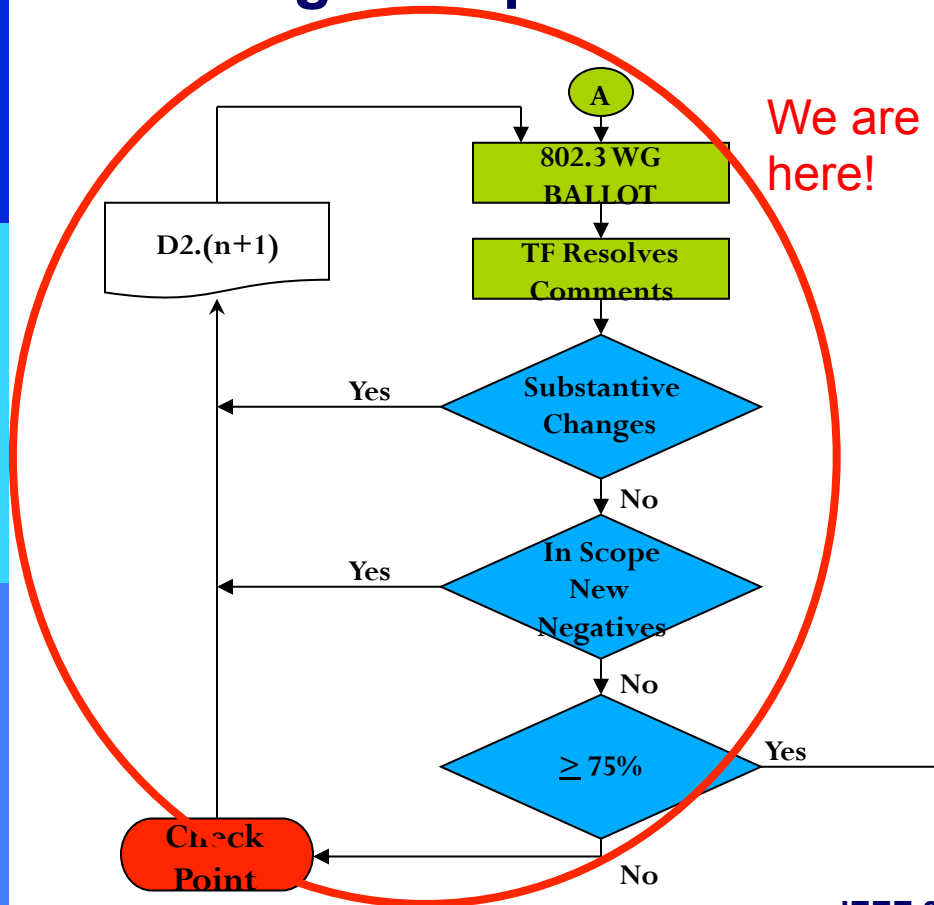


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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



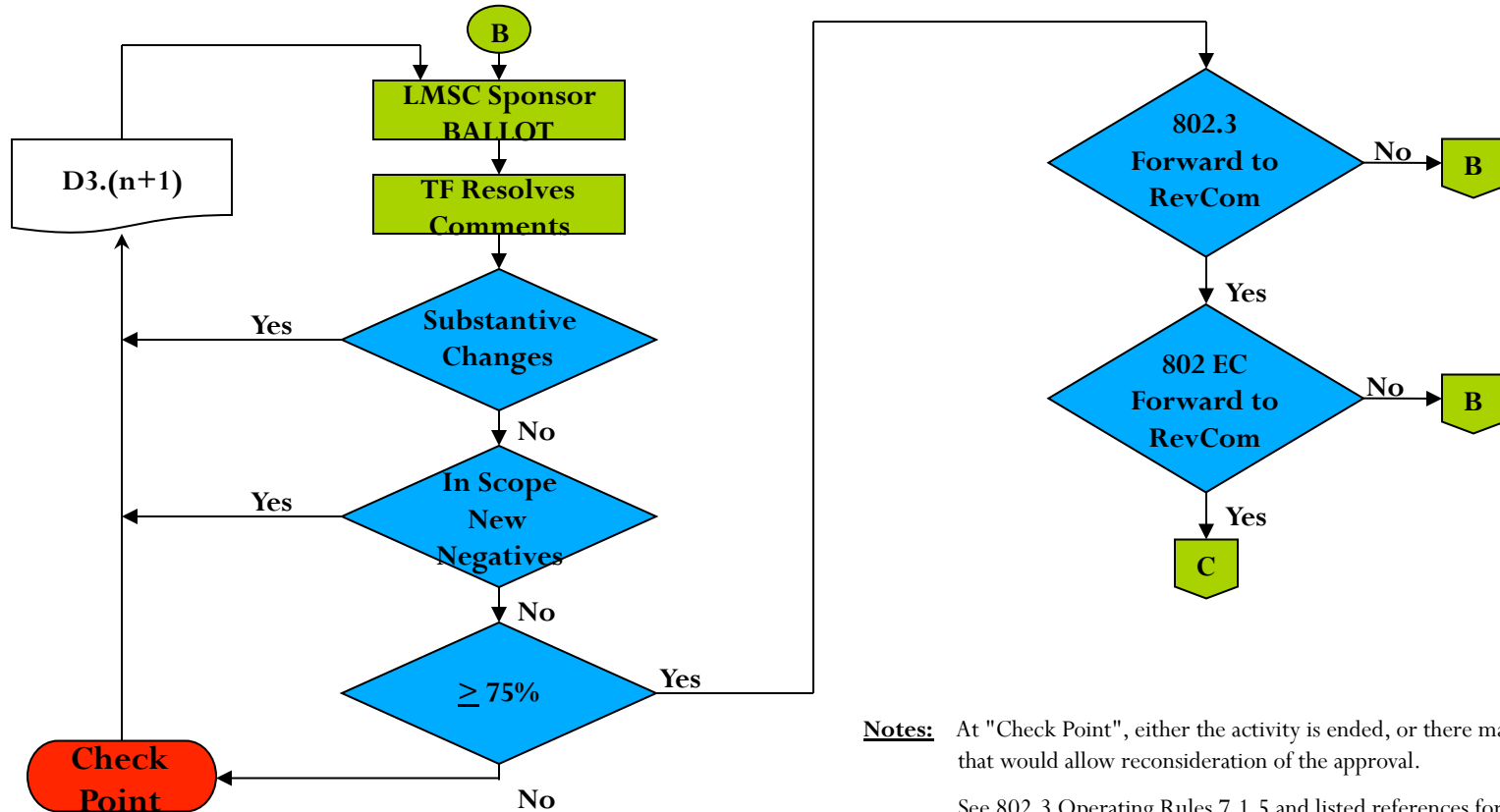
Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

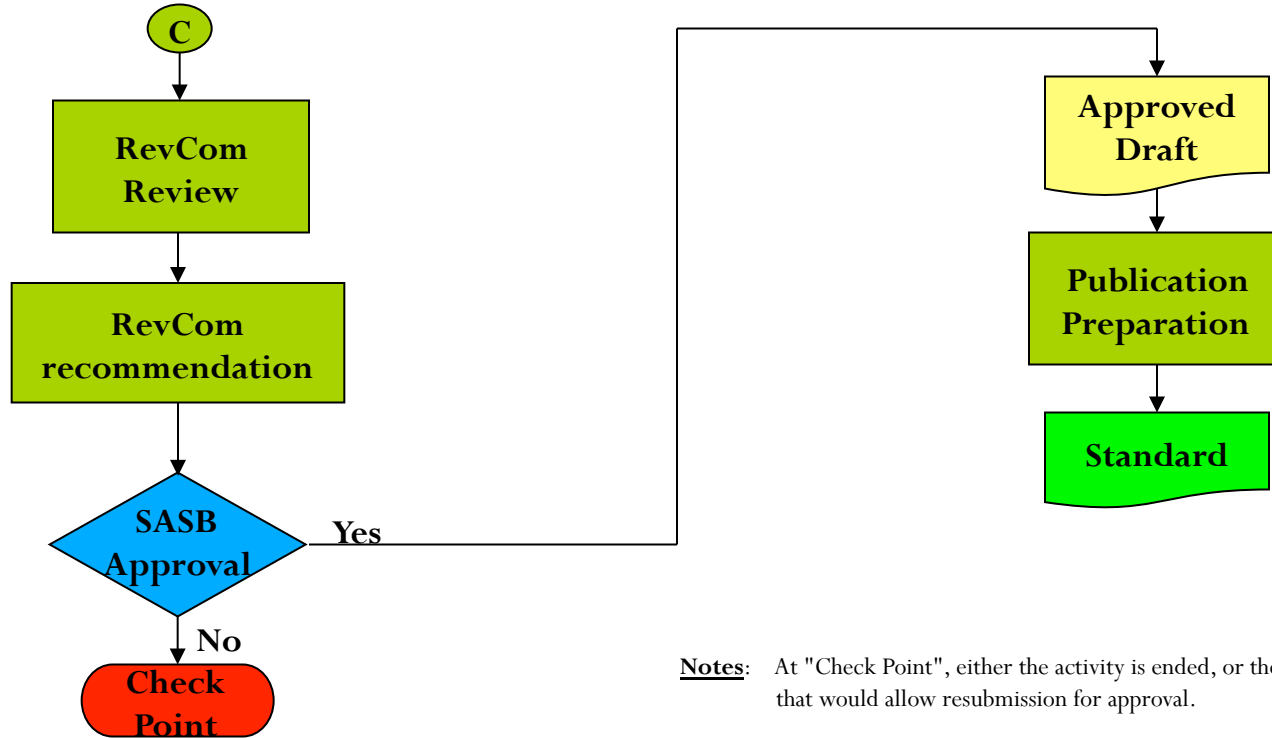
Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



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
- Contribution from John D'Ambrosia on Ethernet Alliance 25 Gb/s technology demonstration plugfest

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

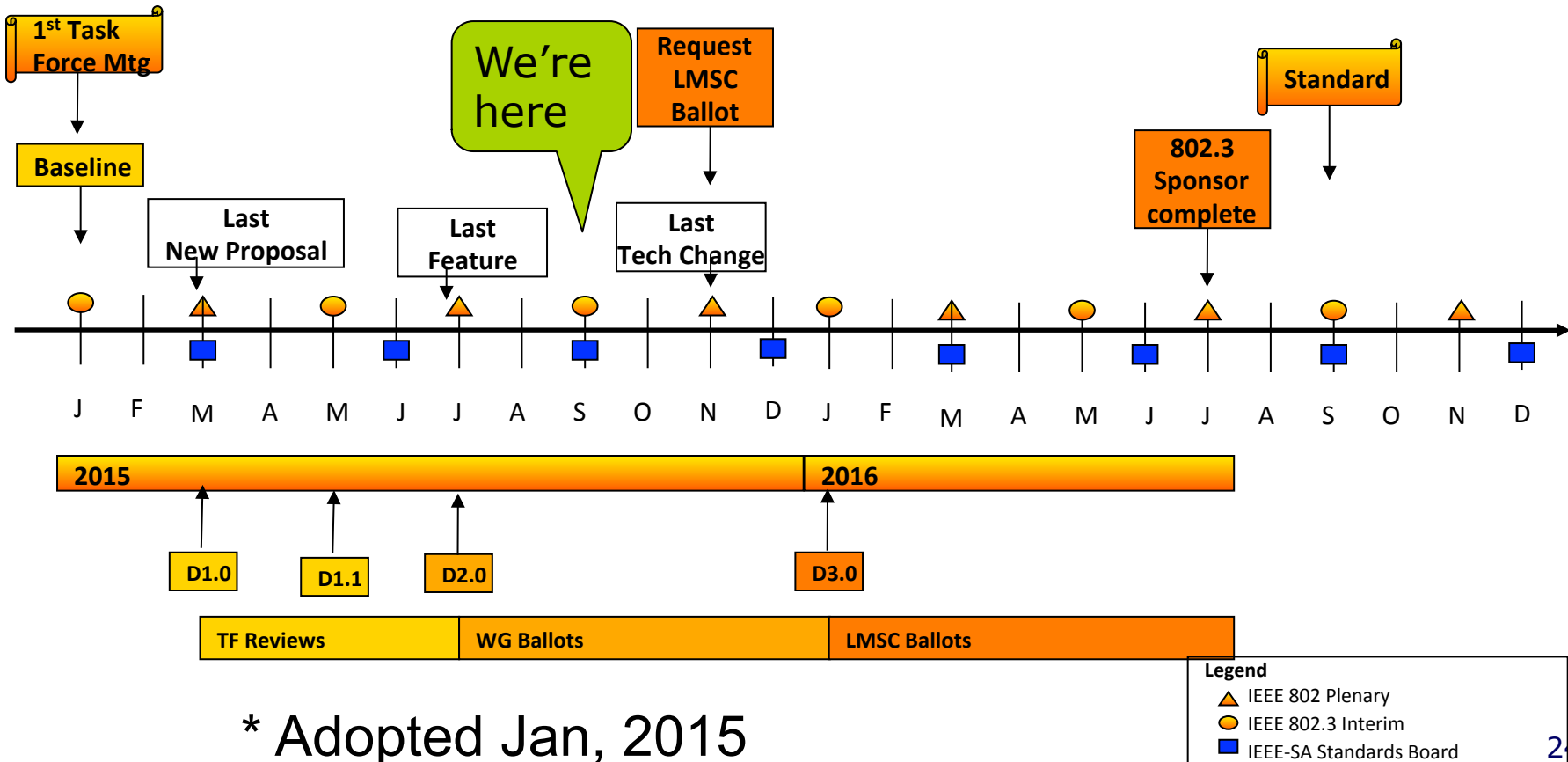
IEEE P802.3by 25Gb/s Ethernet TF Objectives

- 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 Hawaii Meeting summary

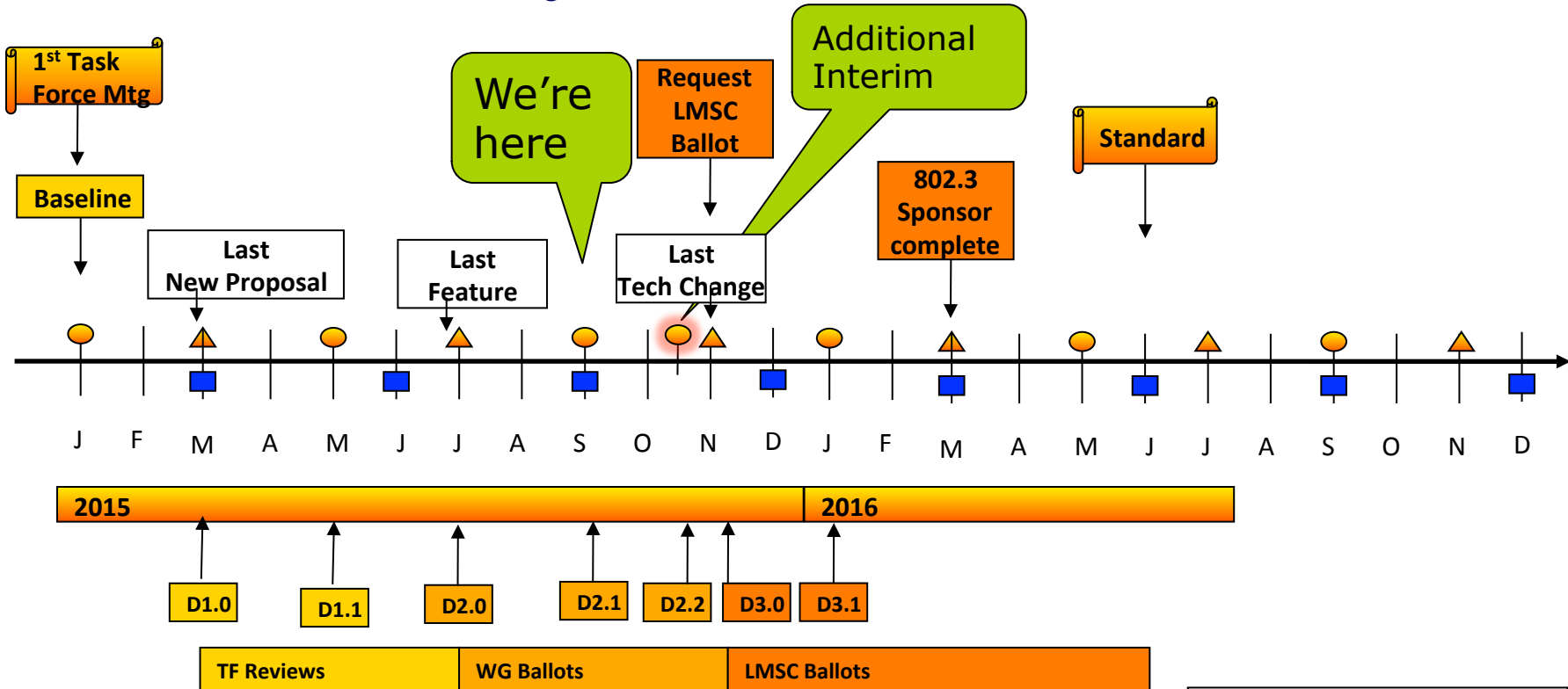
- Plenary Task Force meeting in July 2015, Waikoloa, HI
 - 96 Attendees, 3 Presentations, 5 Motions, 2 Straw Polls
 - Fully reviewed and resolved all (4) comments from D1.1 Task Force Review
 - Met Task Force review goal of technically complete document
 - Approved generation of D2.0 from D1.2
 - Approved liaison communication to ITU Q11/15 to inform them of our progress and to share the latest draft
- Plenary WG meeting
 - Passed motion to progress the D2.0 document to Working Group ballot
- Draft 2.0 generated and sent out for Working Group review:
 - Review Period July 18th – August 18th
 - 142 of 278 Voters responded. **Passes** 51.1% Response Rate (> 50% required)
 - 111 Approve, 23 Disapprove. **Passes** 82.84% Approval Rate (>= 75% required)
 - 8 Abstain. **Passes** 5.63% Abstain Rate (< 30% required)
 - All comments and proposed responses are posted: <http://www.ieee802.org/3/by/public/comments>

IEEE P802.3by Task Force Timeline*



* Adopted Jan, 2015

IEEE P802.3by Task Force Timeline**



** Current trajectory

Legend

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

Goals for the meeting

- D2.0 Comment review and resolution
- Adopt closed comments and generate D2.1
- “Last” big Ticket item closure
 - 3m copper cable w/o FEC feasibility
- Motions

Goals beyond this meeting

WG first recirculation (D2.1)

- D2.1 released Sept 26th
- Ballot: Open Sat Sept 26th, close Sat Oct 10th (15 days)

Additional Interim Oct 15th

- Address comments on D2.1

WG 2nd recirculation (D2.2)

- D2.2 released
- Open Wed Oct 21st, close Wed Nov 4th (15 days)

Nov Plenary Nov 9th

3m no FEC

- Review presentations today
- Decision Thursday (after the afternoon break)
- From Hawaii:

Straw Poll #1: 4:42 p.m.

I want more information on “3m copper cables without FEC” solution space.

- Yes: 39
- No: 9
- Abstain: 19

Straw Poll #2: 4:57 p.m.

I would support changing the 802.3by specification to include 3m operation of copper cables without FEC, assuming that a suitable solution can be found.

- Yes: 41
- No: 11
- Abstain: 19

Going to Sponsor Ballot (anslow_3by_01_0115.pdf)

This is similar to WG ballot except that the group of participant (the Sponsor ballot pool) is different again.

- The Sponsor ballot pool is open to anybody with IEEE-SA membership or willing to pay per-ballot fee. Anybody in the world with interest in the given draft can join and cast ballot on the draft.
- The comments continue to be resolved in meetings of the Task Force

Sponsor ballot continues until the following conditions are met:

- No substantive (technical) changes in the last recirculation
- No new in-scope 'required' comments (TR/GR/ER) associated with a Disapprove ballot in the last recirculation
- $\geq 75\%$ approval ratio
- $\geq 75\%$ response ratio
- $< 30\%$ abstention ratio

When the above conditions are met the TF can request that the draft is submitted to RevCom and the SASB for final approval.

Meeting Schedule

Wednesday
16-Sep-15

Time	Presenter	Affiliation	Title	File Name	Duration
1:00 PM	Mark Nowell	Cisco	Agenda and General Information	agenda_3by_01_0915.pdf	0:30
1:30 PM	Matt Brown	APM	25 Gb/s Ethernet Architecture Ad-hoc report	brown_3by_01_0915.pdf	0:05
1:35 PM	Matt Brown	APM	Chief Editor's Report	brown_3by_02_0915.pdf	0:10
1:45 PM	Mike Andrewartha	Microsoft	Feasibility and Rationale for a 3m no-FEC server-switch DAC	andrewartha_3by_01_0915.pdf	0:20
2:05 PM	John D'Ambrosia	Dell	Ethernet Alliancue / UNH-IOL 25Gb/s Technical Feasibility Results	dambrosia_3by_01_0915.pdf	0:20
2:25 PM	Break				0:15
2:40 PM	Tom Palkert	Molex	Latency impacts of FEC	palkert_3by_01_0915.pdf	0:20
3:00 PM	Tom Palkert	Molex	COM parameter proposal to achieve 3m No FEC	palkert_3by_02_0915.pdf	0:20
3:20 PM	Mike Dudek	Qlogic	3m No-FEC Proposal	dudek_3by_01_0915.pdf	0:20
3:40 PM	Discussion on 3m no FEC topic				0:15
3:55 PM	Comment resolution				2:35
6:30 PM	Break				

Thursday
17-Sep-15

Time	Presenter	Affiliation	Title	File Name	Duration
8:00 AM	Mark Nowell	Cisco	Opening		0:10
8:10 AM	Comment resolution				1:50
10:00 AM	Break				0:15
10:15 AM	Comment resolution (bucket motion before lunch)				2:00
12:15 PM	Lunch				1:00
1:15 PM	Comment resolution (OTN BTI)				1:45
3:00 PM	Break				0:15
3:15 PM	Comment resolution (3m no-FEC BTI)				3:15
6:30 PM	Break for dinner and WG meeting				1:30
8:00 PM	Comment resolution (if needed)				TBD
TBD	Break when we're done...				

Friday
18-Sep-15

Time	Presenter	Affiliation	Title	File Name	Duration
8:00 AM	Mark Nowell	Cisco	Opening		0:10
8:10 AM	Comment resolution and breaks as needed				3:50
	Comment Resolution completion				TBD
	Closing business and motions				
TBD	Adjourn (target before 1pm)				

Note –Times listed are subject to change.

Updated versions will be captured with new filename versions

Not all contributed presentations are scheduled. Will depend on comment resolution schedule.

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>
- **** new **** Additional Interim (details on next page)
 - Oct 15th, 2015. Milpitas, Ca
- November 2015 Plenary
 - Nov 8-13th, 2015. Dallas, Tx
- Jan 2016 Interim
 - Week of Jan 18th, 2016. Atlanta, GA
- March 2016 Plenary
 - Week of March 13th, 2016 – Macau, China

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

Additional Interim info

Purpose: Address comment resolution from D2.1 recirculation ballot

When: October 15th, 2015 8am– 5pm*

*Note: Meeting end time is approximate. The meeting will adjourn when the meeting goal of completing the comment resolution is finished. If we are not complete by the announced 5pm finish, the TF will need to make a decision as to whether we continue our work.

Where: Cisco Campus, Building #24 (Boiler Maker Conf Room)
510 McCarthy Blvd.
Milpitas, California 95035
United States

Hotel: no block – you are on your own. Many hotels nearby. Book early, area fills up quickly.

No Electronic attendance will be available.
IEEE 802.3



Thank You!