

Agenda and General Information

IEEE 802.3
Next Generation
100Gb/s Optical Ethernet Study Group

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Applied Micro
Waikoloa, Hawaii USA – 12-March-2012

Agenda

- *Appointment of Recording Secretary*
- Welcome and Introductions
- Approve Minutes of January Meeting
- Approve Agenda
- Goals for this meeting
- Reflector and Web
- Ground Rules
- IEEE
 - Structure
 - Bylaws and Rules
 - Call for Patents
 - IEEE Standards Process
- Liaisons and Communications
- Presentations
- Motions and Closing Business
- Future Meetings

Study Group Decorum



- Photography or recording by permission only (5.3.3.4)
- Cell phone ringers off
- Press (i.e., anyone reporting publicly on this meeting) are to announce their presence (2008 SASB Op Manual 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 (enforcement procedures)

Goals for the meeting

- Presentation of Common Interest Items
- Discuss Common Interest Items with 802.3bj participants

Reflector and Web

- To subscribe to the *Next Generation 100Gb/s Optical Ethernet* reflector, send an email to: ListServ@ieee.org

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

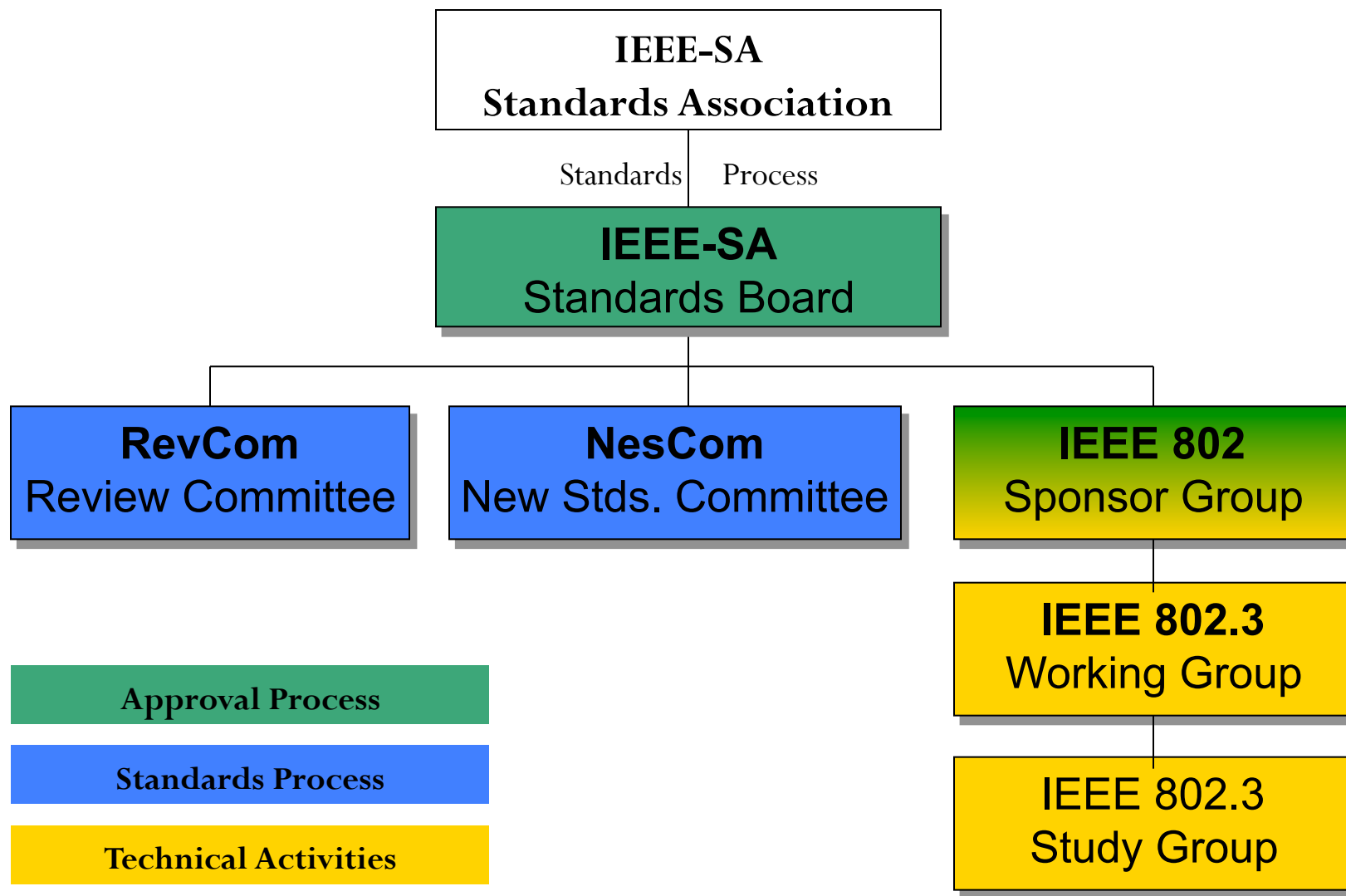
subscribe stds-802-3-100GNGOPTX <yourfirstname> <yourlastname>
end

- Send *Next Generation 100Gb/s Optical Ethernet* reflector messages to:
STDS-802-3-100GNGOPTX@LISTSERV.IEEE.ORG
- Study Group web page URL:
<http://www.ieee802.org/3/100GNGOPTX/index.html>

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 – Do unto others...
- 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 and Rules

- **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
- **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
- **IEEE 802.3 Working Group Operating Rules**
http://ieee802.org/3/rules/P802_3_rules.pdf

Guidelines for IEEE-SA Meetings

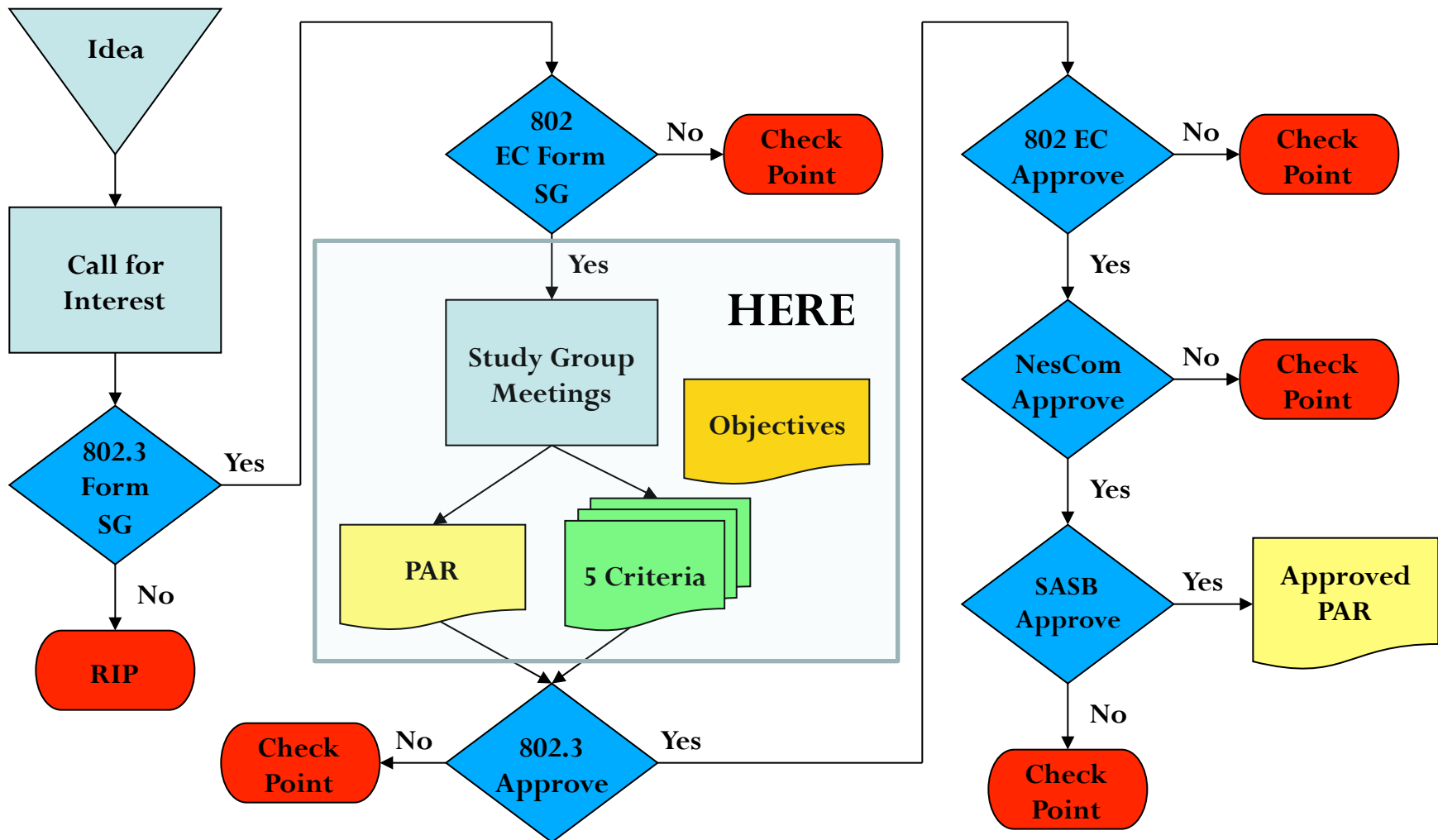
- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
- **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
- **Don't discuss specific license rates, terms, or conditions.**
 - Relative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

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>

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.

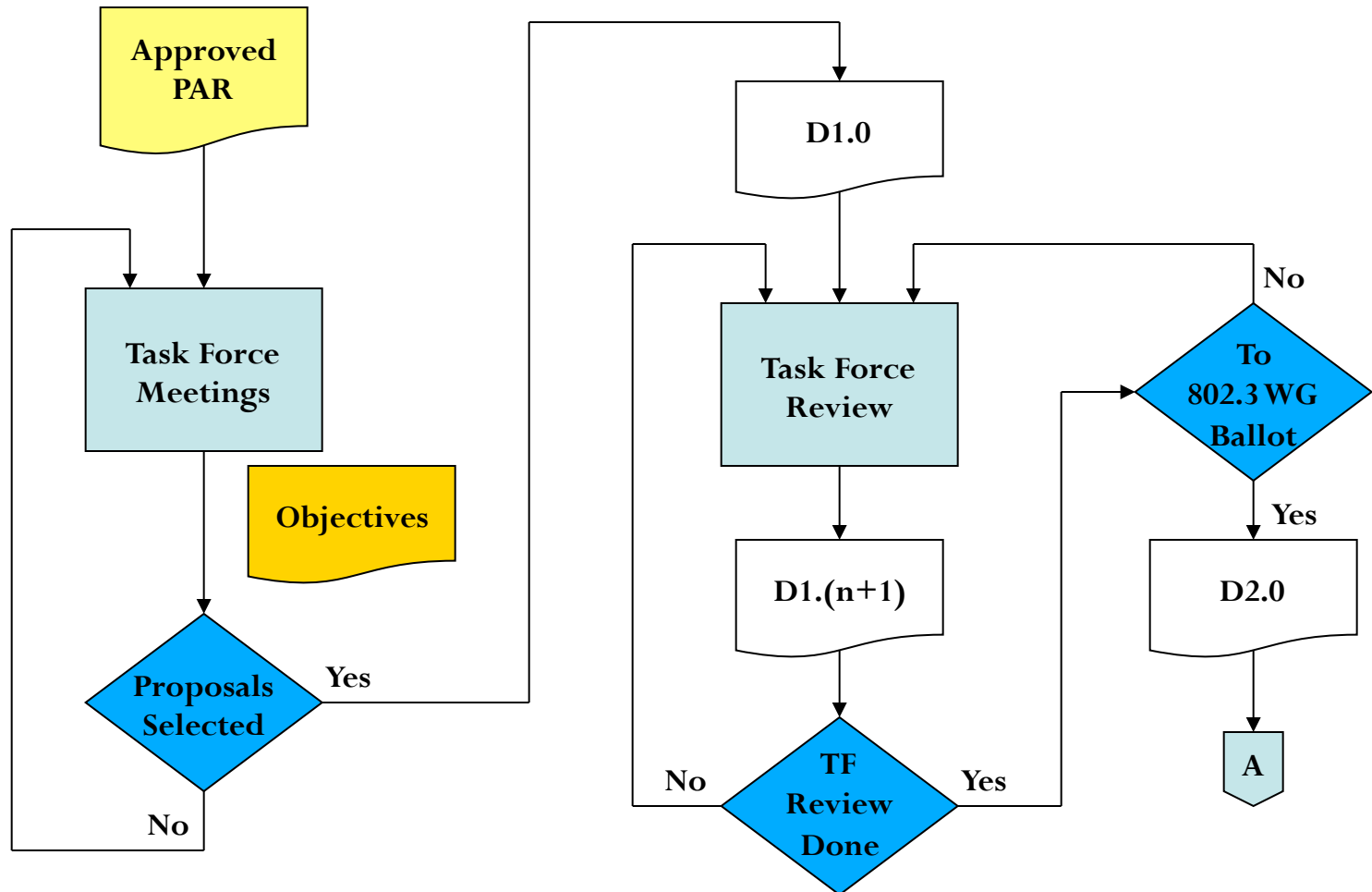
This slide set is available
at <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>

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

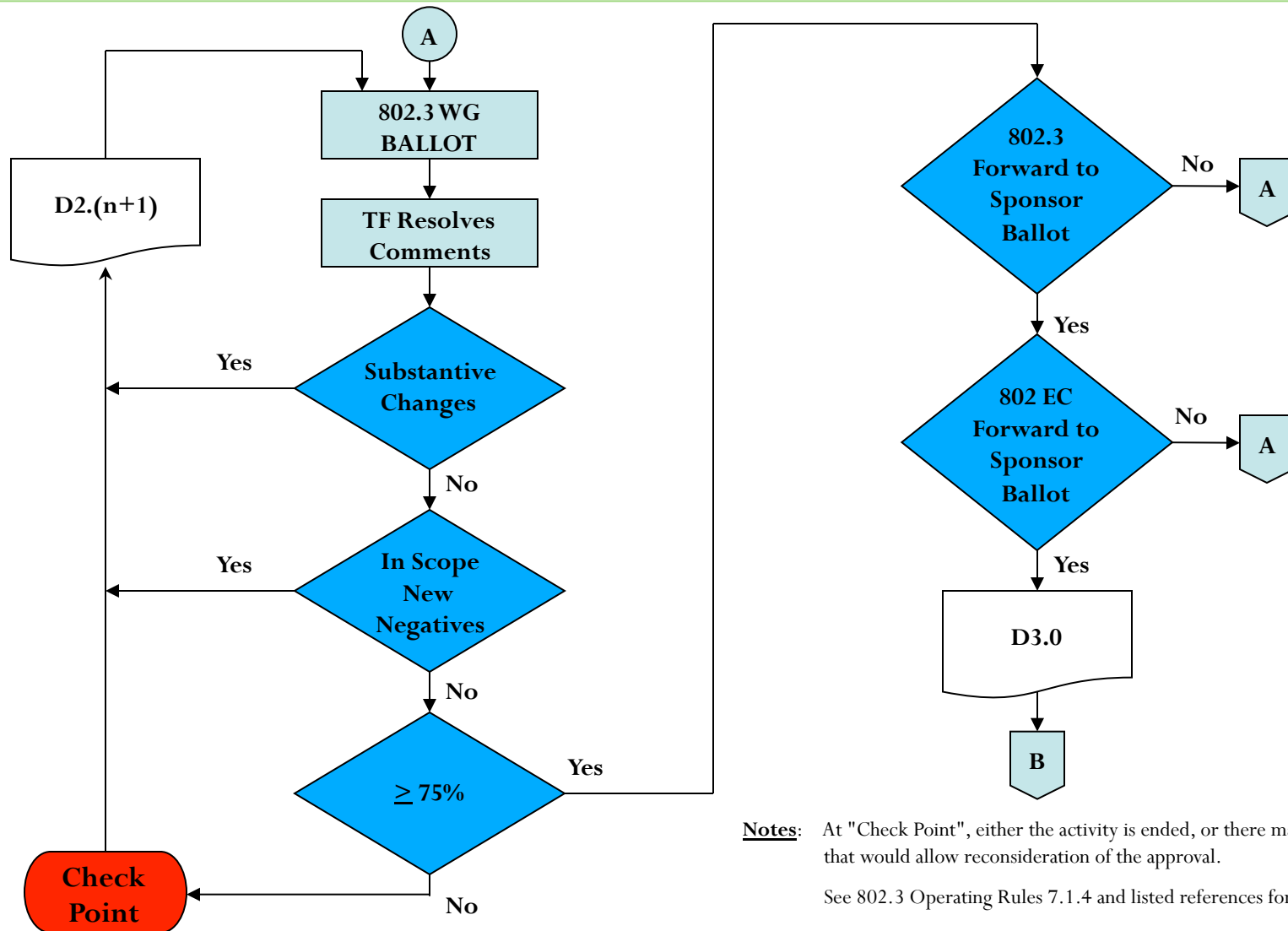


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

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

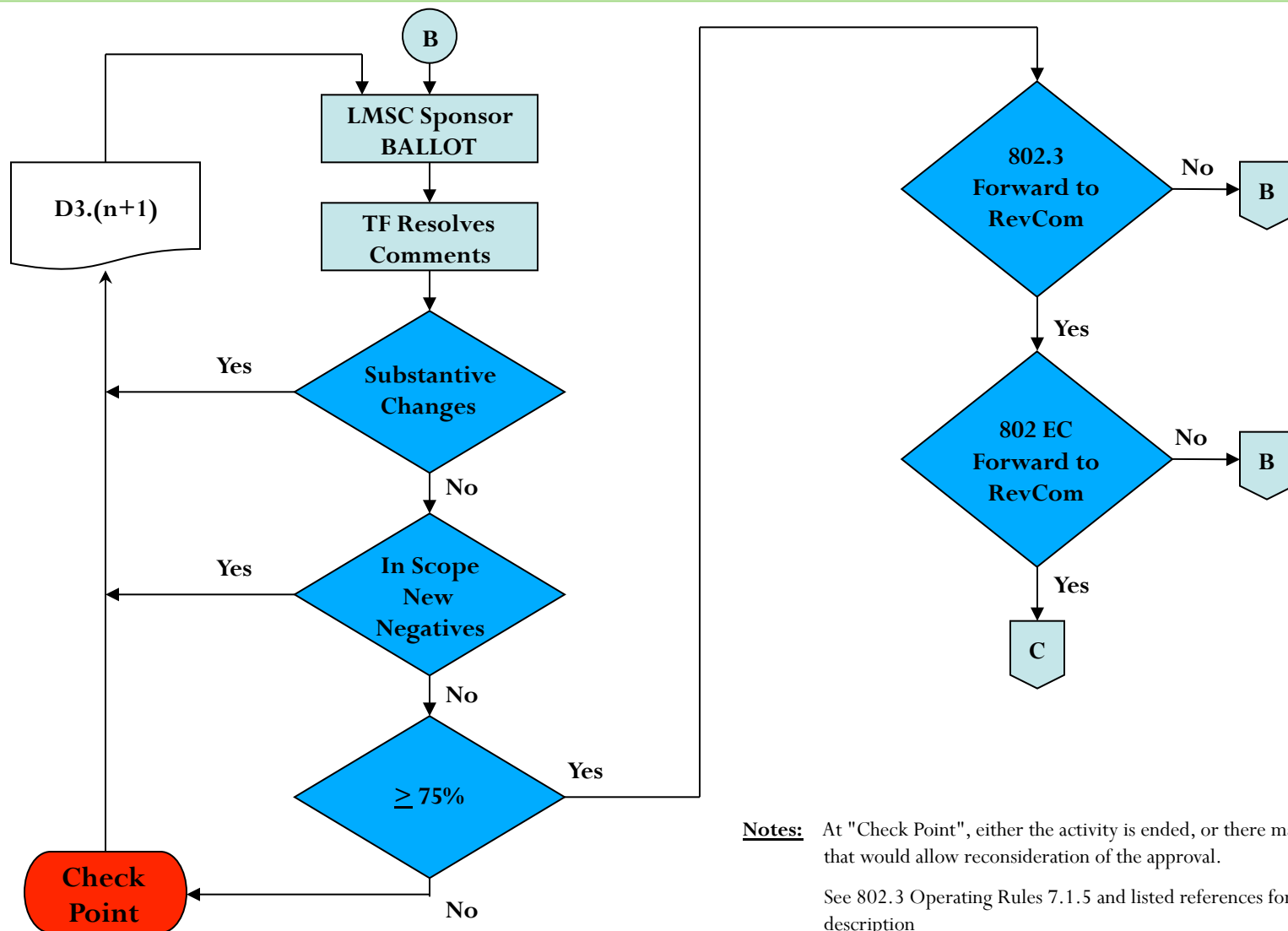


Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



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

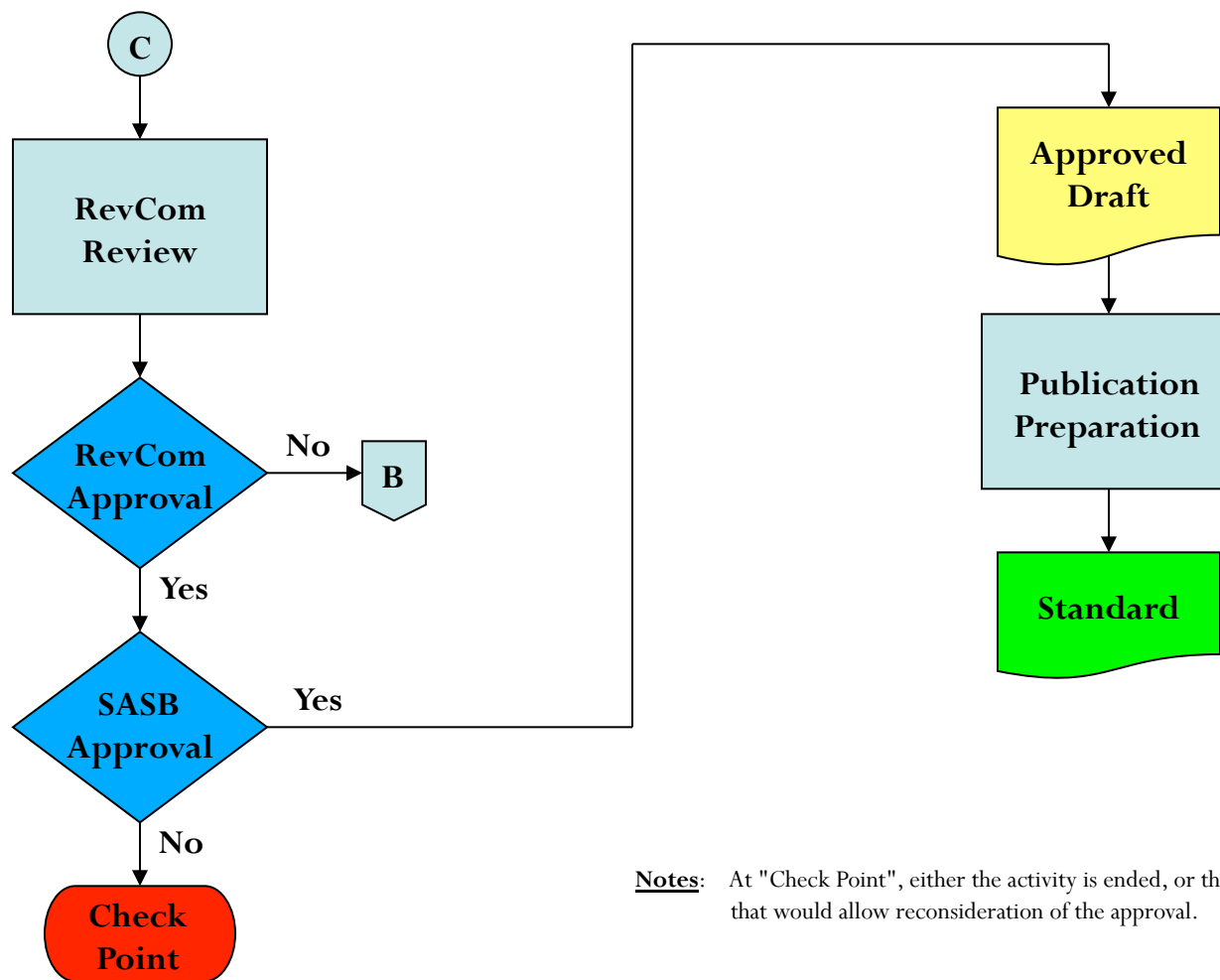
Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



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.

The Study Group

- Normal function is to draft a complete PAR and Five Criteria Response
- Provide a plenary week tutorial to the LMSC <if appropriate>.
- Gain approval at the WG 802.3, 802 SEC, IEEE NesCom and IEEE-SA Standards Board.
- SG only exists for 6 months
 - Extensions can be requested
 - Voted on by 802.3
 - Ratified by SEC
- Development of Objectives helps set the goals for the Task Force
- Consensus (>75%) required to move forward

- Not a goal – choosing a solution.

Request for Formation of Study Group (as per July 2011 Plenary Motion)

Move the IEEE 802.3 Working Group
authorizes the formation of a study group
for “***Next Generation 100 Gigabit Optical
Ethernet***”

Development of Objectives

Example # 1 – IEEE P802.3ba Objectives

- Support full-duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum FrameSize of current 802.3 standard
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface
- Provide appropriate support for OTN
- Support a MAC data rate of 40 Gb/s
- Provide Physical Layer specifications which support 40 Gb/s operation over:
 - at least 10km on SMF
 - at least 100m on OM3 MMF
 - at least 7m over a copper cable assembly
 - at least 1m over a backplane
- Support a MAC data rate of 100 Gb/s
- Provide Physical Layer specifications which support 100 Gb/s operation over:
 - at least 40km on SMF
 - at least 10km on SMF
 - at least 100m on OM3 MMF
 - at least 7m over a copper cable assembly

Development of Objectives

Example # 2 – IEEE P802.3bg Objectives

- Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface
- Support a MAC data rate of 40 Gb/s
- Use the 40GBASE-R PCS and PMA
- Use only existing electrical and logical interfaces from IEEE Std 802.3 as modified by IEEE P802.3ba
- Provide Physical Layer specification which support 40 Gb/s operation over at least 2 km on SMF.
- Provide optical compatibility with existing carrier 40Gb/s client interfaces (OTU3/STM-256/OC-768/40G POS).

Development of Objectives

Example # 3 – IEEE P802.3bj Objectives

- Support full-duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum FrameSize of current 802.3 standard
- Support a BER of better than or equal to 10^{-12} at the MAC/PLS service interface
- Define a 4-lane 100 Gb/s backplane PHY for operation over links consistent with copper traces on “improved FR-4” (as defined by IEEE P802.3ap or better materials to be defined by the Task Force) with lengths up to at least 1m.
- Define a 4-lane 100 Gb/s PHY for operation over links consistent with copper twin-axial cables with lengths up to at least 5m.

Project Documentation

- PAR
 - Title – What are we calling this project?
 - Scope – What is the focus of the project?
 - Purpose – Why do we want to do this?
- 5 Criteria
 - Broad Market Potential
 - Compatibility with IEEE Std. 802.3
 - Distinct Identity
 - Technical Feasibility
 - Economic Feasibility

Liaisons and Communications

- **Joint P802.3bj/100G Optical SG Joint Session**
 - This meeting
- **OIF**
 - Ongoing communications between OIF and IEEE 802.3 initiated by IEEE P802.3ba project
 - In regards to OIF CEI-25G-LR, CEI-28G-SR, CEI-28G-VSR
 - Currently being operated through 802.3 Working Group and delegated to NG100GOPTX Study Group
- **ITU-T**
 - Proposed liaison activity to ensure alignment.

Attendance

- No credit for this meeting
- No sign-up for this meeting on IMAT
- Please sign the attendance sheet

Monday Presentations

Monday 12-March-2012

Note –Times listed are subject to change.

Co-Located Interim		Start Time	8:30			Discussion Time	10
Presentation Time	Duration	Presenter	Affiliation	Title	Filename		
8:30	25	Dan Dove	Applied Micro	Introduction, Agenda & Objectives of Meeting	dove_01_0312_NG100GOPTX.pdf		
8:55	15	Mark Gustlin	Xilinx	FEC architecture and Overview	gustlin_01_0312_NG100GOPTX		
9:15	15	Ryan Latchman	Mindspeed	Host Loss Budget Update	latchman_01_0312_NG100GOPTX		
9:40	20	Tom Palkert	Molex	Common MDI for copper and optical variants	palkert_04_0312_NG100GOPTX		
10:05	15	Break					
10:35	20	Roy Cideciyan	IBM	256b/257b Transcoding for 100 Gb/s Backplane and Copper Cable	cideciyan_01_0312_NG100GOPTX		
11:05	20	Ali Ghiasi	Broadcom	Choosing Host PCB for CR4 Optimally with an Eye Toward Unretimed Interface	ghiasi_04_0312_NG100GOPTX		
11:35	20	Nathan Tracy	Tyco Electronics	802.3bj MDI Baseline Proposal	tracy_01_0312_NG100GOPTX		
12:05	15	Dan Dove	Applied Micro	Wrap Up & Adjourn			

Future Meetings

- See: <http://www.ieee802.org/3/interims/index.html>
- **Monday, March 12th through Thursday, March 15th, 2012**
 - **IEEE P802.3 Plenary Session**
 - Hilton Waikoloa Village
 - Big Island, Hawaii
 - USA
- **Monday, May 14th through Thursday, May 17th, 2012**
 - **IEEE P802.3 interim session**
All IEEE 802.3 Task Force and Study Groups will meet
 - **Hosted by Cisco**
 - Hilton Minneapolis
 - Minneapolis, MN
 - USA
- **Monday, July 16th through Thursday, July 19th, 2012**
 - **IEEE 802 plenary**
 - **Grand Hyatt Manchester**
 - **San Diego, CA**

Thank You!