

400 Gb/s Ethernet Study Group

**Overview of the Process
Victoria, BA, Canada
May 17th 2013**

**Wael William Diab
Vice Chair, IEEE 802.3 (Ethernet)
Sr. Technical Director, Broadcom**

Before I Share My Views...



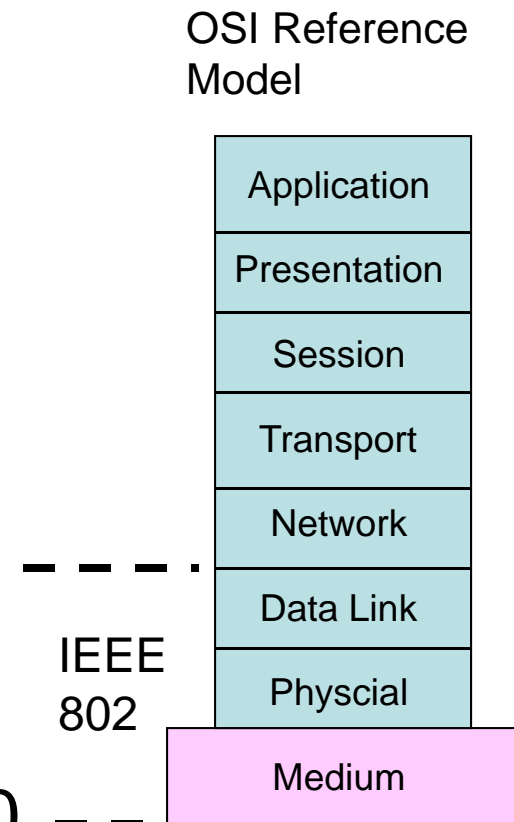
“At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position, explanation, or interpretation of the IEEE.”

IEEE-SA Standards Board Operation Manual (subclause 5.9.3)

Introduction to IEEE 802

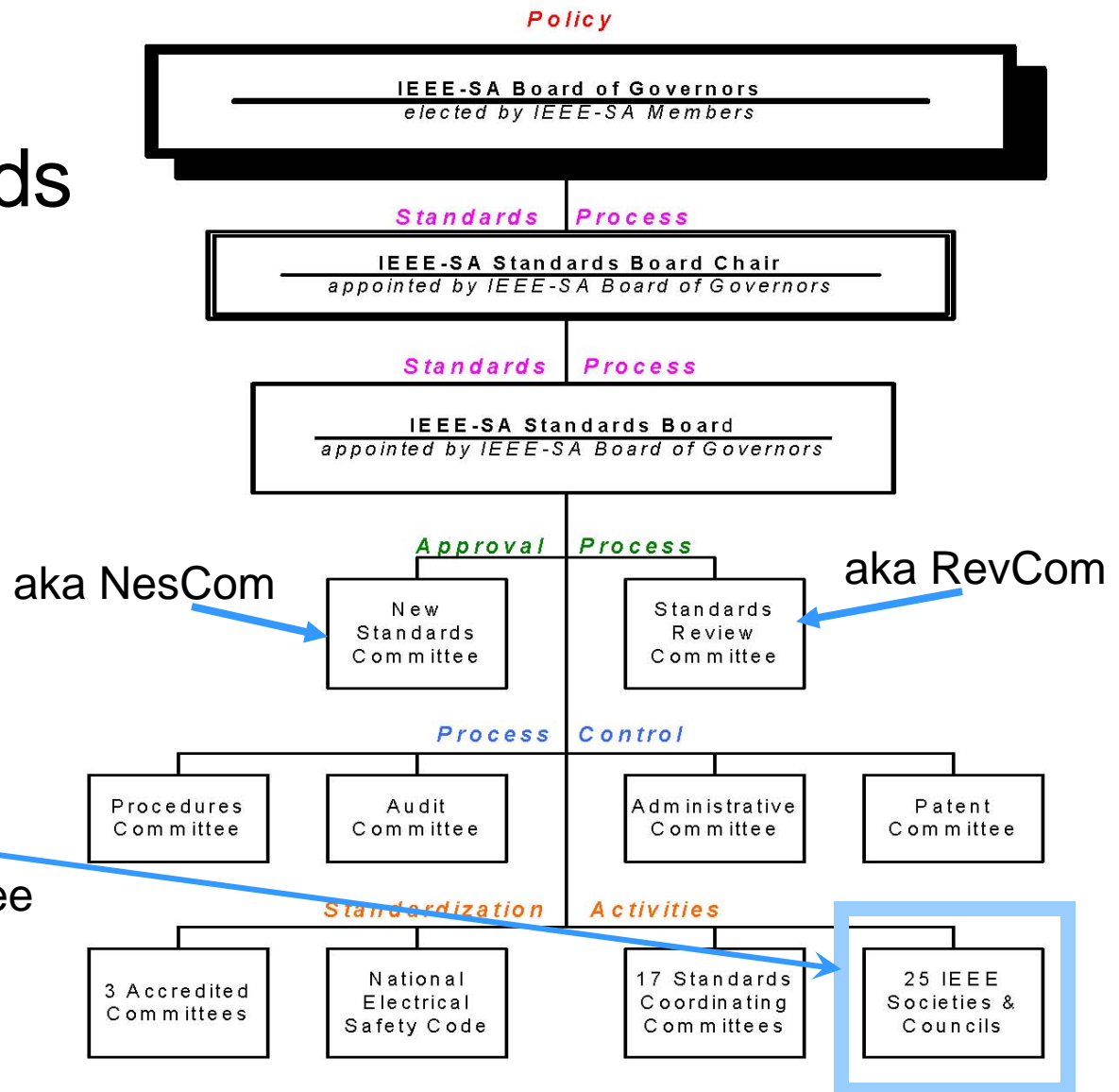
Who we are

- IEEE Project 802 LAN/MAN Standards Committee (aka IEEE 802 or LMSC)
 - Develop LAN and MAN standards
 - Mainly for link and physical layers of the network stack
 - In operation since March 1980



IEEE Standards Organization

IEEE 802 is here:
a standards committee
formed by the
Computer Society



Some terms

- PAR – project authorization request – the document that authorizes work on a project.
- WG - Working group – responsible for developing standards in an area
- TAG – Technical Advisory Group – experts on a topic area that crosses working groups – may develop a recommended practice.
- Task group or task force – a part of a working group which focuses on a particular project.

All those dots....decoder ring

802.1 Bridging and Architecture –
generally the top of the link
layer

802.3 CSMA/CD – Carrier sense
multiple access/collision detect
– wired Ethernet

802.11 WLAN – wireless LAN

802.15 WPAN – wireless personal
area network

802.16 BWA – broadband
wireless access

802.17 ResPackRing – resilient
packet ring

802.18 Radio Regulatory TAG

802.19 Coexistence

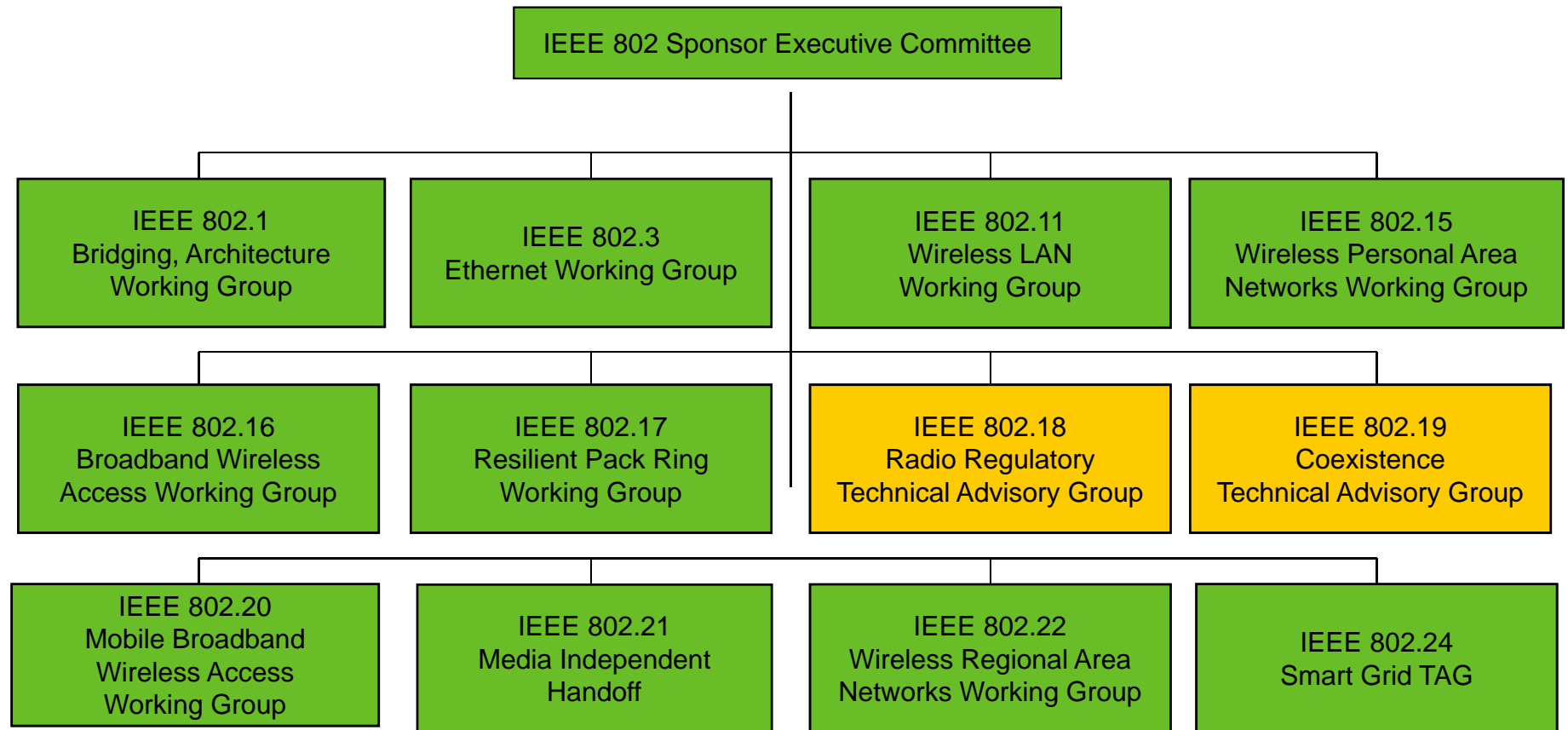
802.20 MBWA – mobile
broadband wireless access

802.21 Media Independent
Handoff

802.22 WRAN - wireless regional
area networks

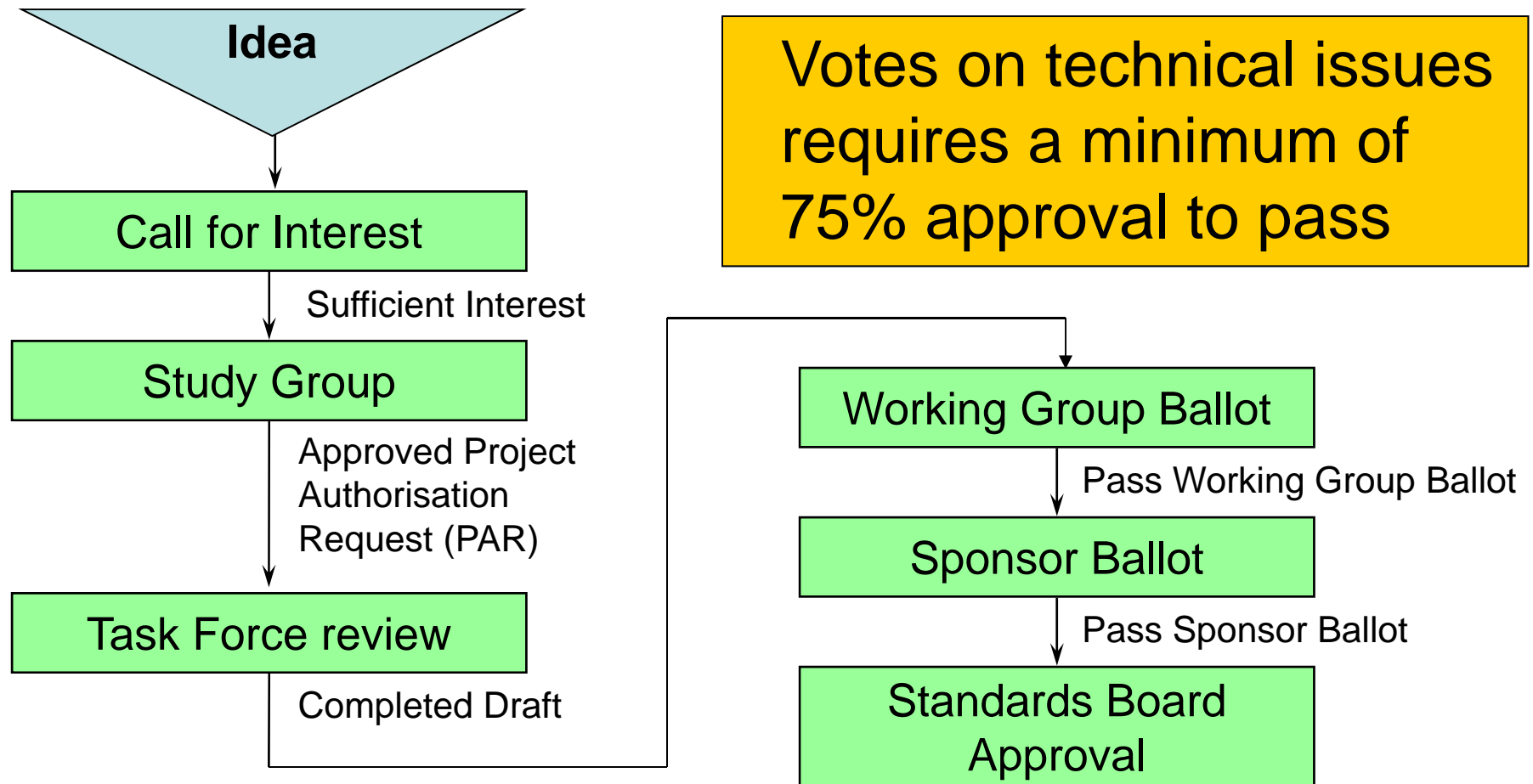
802.23 Emergency Services

IEEE 802 Working Groups



Introduction to IEEE standards process

IEEE 802.3 Standards Development Overview



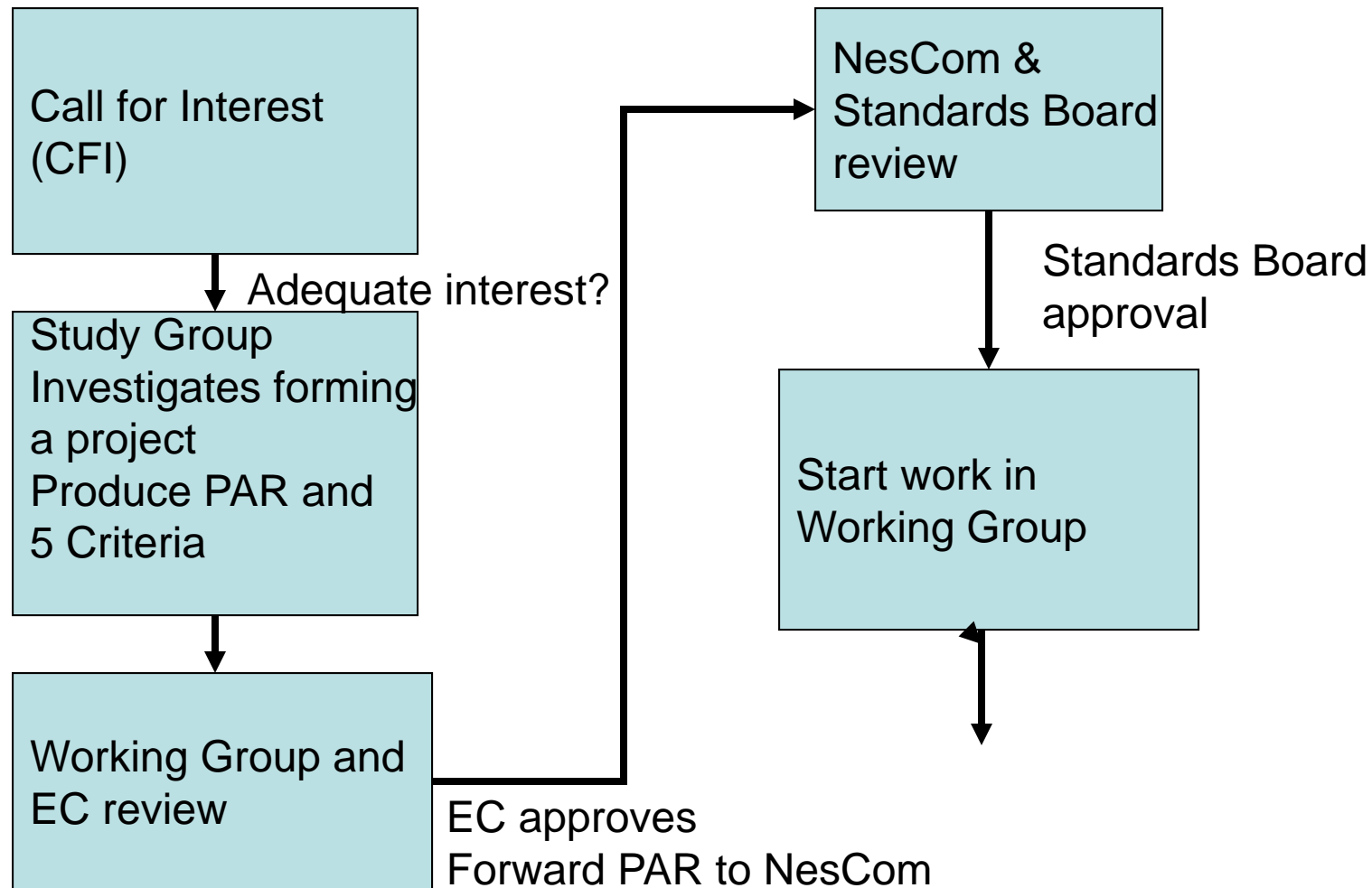
Principles of the process

- **Due process** — procedures are publicly available and followed consistently
- **Consensus** — requiring agreement of a majority or supermajority — for technical decisions here = 75%
- **Openness** — ensuring materially interested and affected parties can participate
- **Balance** — representation from all interested parties without overwhelming influence from any one party
- **Right of appeal** — process to ensure due process

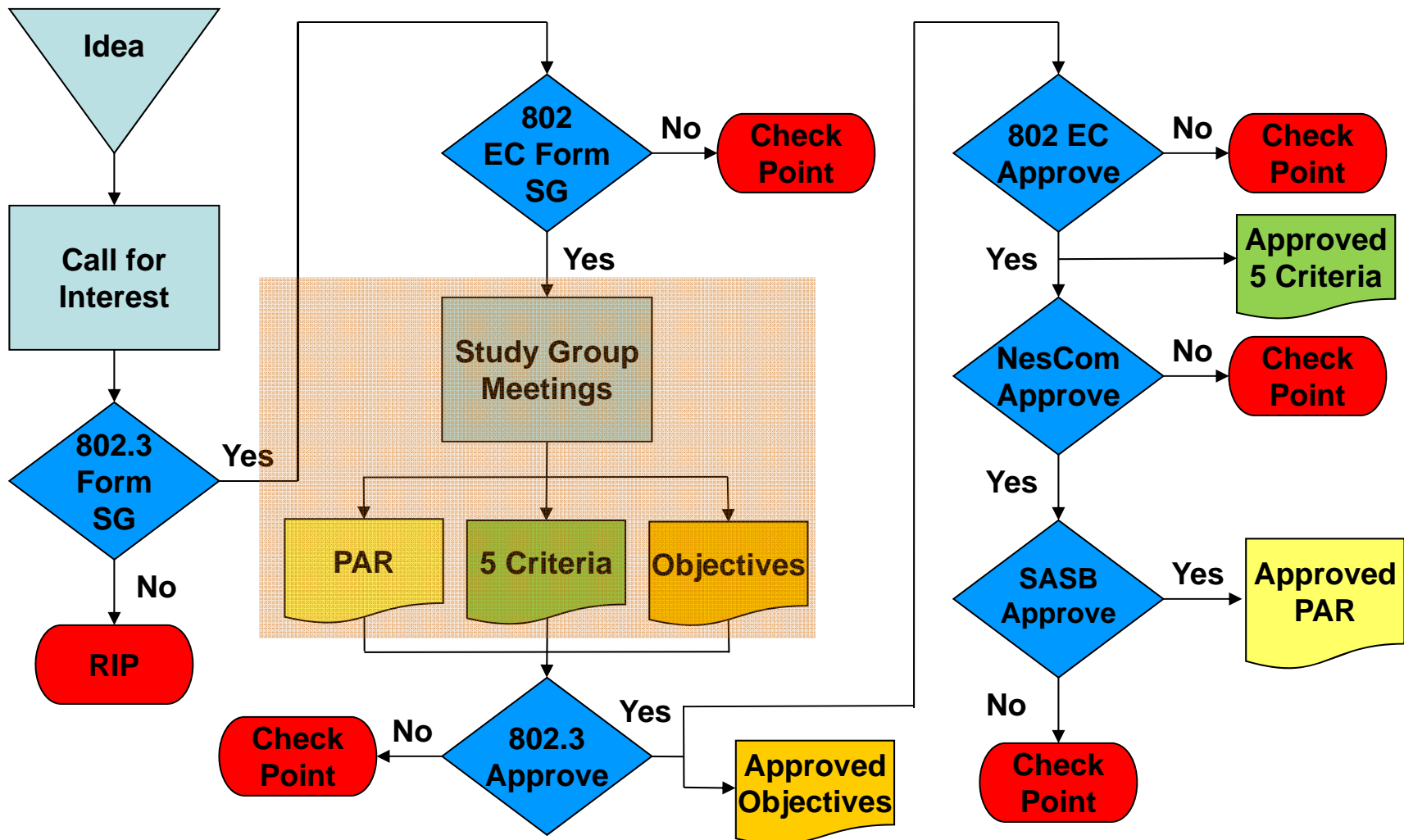
More terms

- PAR – Project Authorization Request – the charter for a standards project
- CFI – Call for interest – a brief meeting to outline a topic and determine if there is interest in investigating possible project
- Study Group – a group formed to investigate a project and produce a PAR
- Five Criteria – In IEEE 802 the basis for determining whether to forward a PAR.

IEEE 802 standards development life cycle – part 1



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

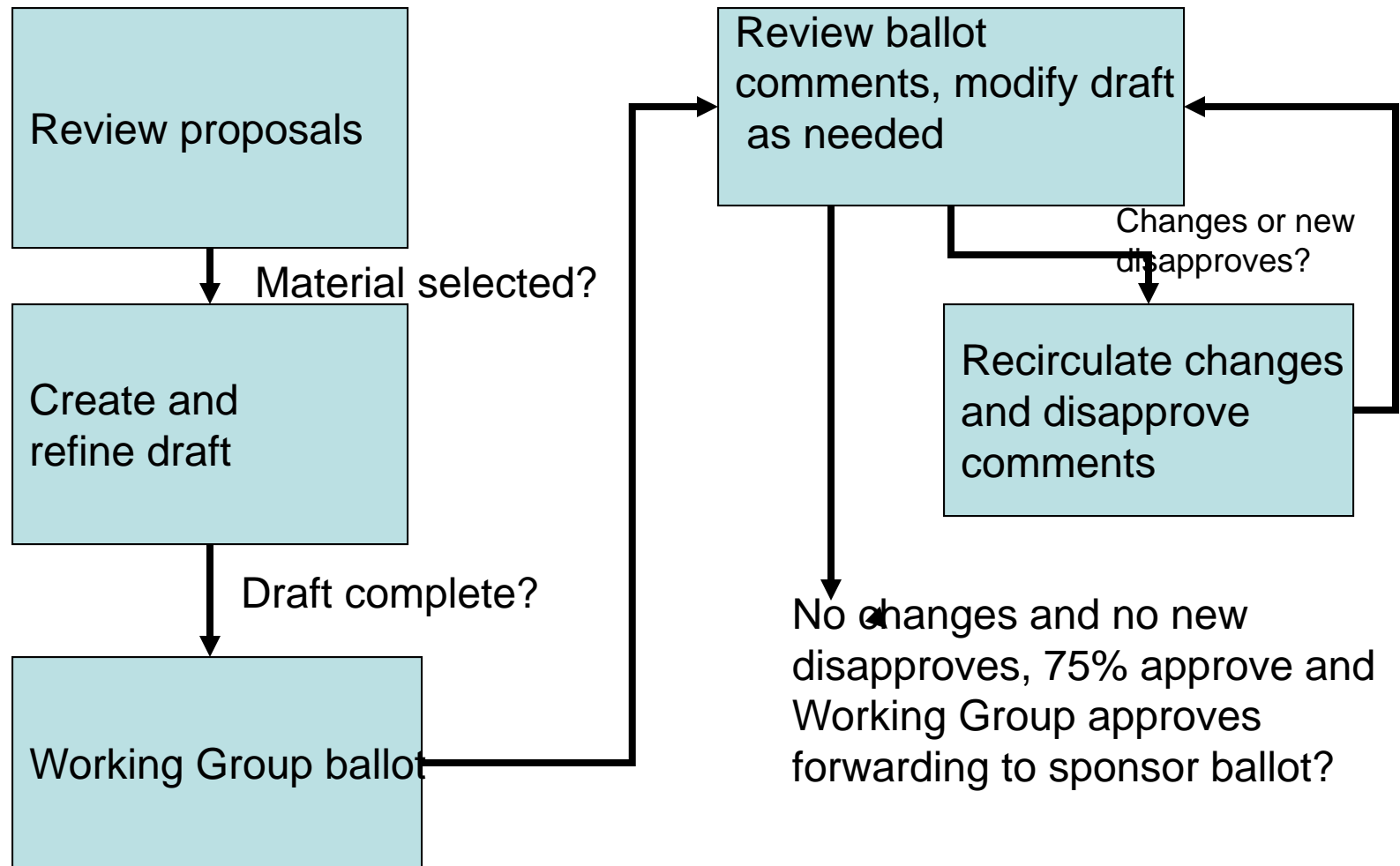


Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

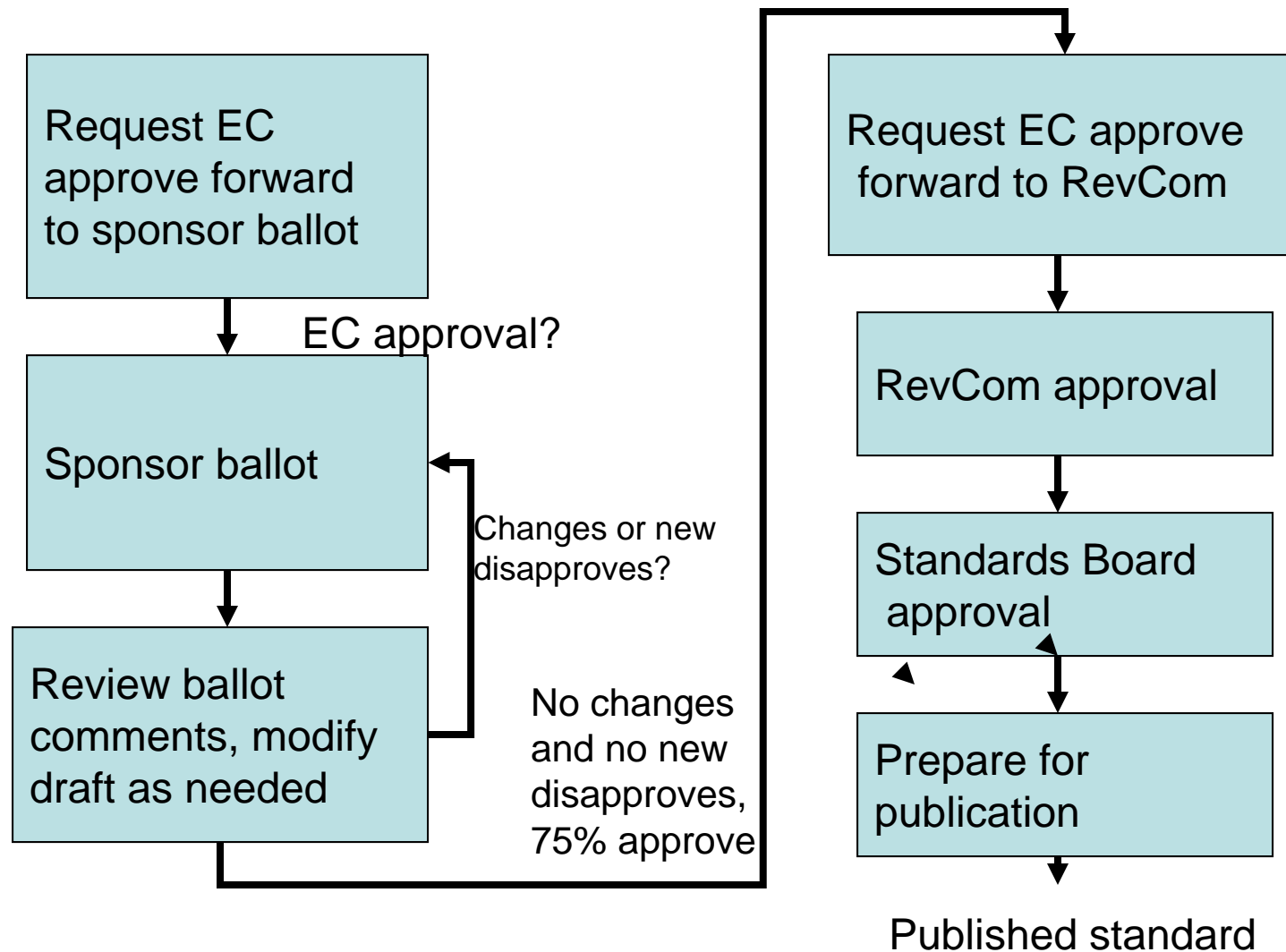
What does the Study Group produce?

- 5 Criteria
 - Broad Market Potential, Compatibility, Distinct Identity, Technical Feasibility, Economic Feasibility
- PAR
 - Your “contract” with the IEEE-SA and “authorization” to develop a standard
 - Broadly focuses on what the standard is that group will work on including scope, purpose, broad timeline (not a project plan)
 - Good idea to look at examples of prior projects
- Objectives
 - Your “contract” with 802.3
 - At a high level it is what the group will work on (and what it will not)
 - Somewhat more specific than the scope in the PAR

IEEE 802 standards development life cycle – part 2



IEEE 802 standards development life cycle – part 3



Standards life cycle – part 4

- And then there is maintaining the standard
 - Respond to request for interpretation
 - Keep the standard current by producing amendments and corrigenda (corrections)
 - Renew the life of the standard with reaffirmation or revision
 - When the standard is out of date, withdraw it.

Voting and membership

- Voters have responsibility to vote on letter ballots
- Three levels of voting occur in IEEE 802 standards development:
 - Sponsor ballot
 - Open to all interested parties
 - Via IEEE SA-membership or paying a per ballot fee
 - Participation requires an IEEE Web Account
 - Working group
 - Requirements on next page
 - Task force or task group
 - Requirements vary – consult Working group.

Acquiring Working Group voting membership

- Participating at a meeting = at least 75% presence.
- For a new Working Group, persons participating in the initial meeting become members.
- For an existing Working Group, after attending 2 of last 4 plenary sessions or 1 plenary and 1 interim, membership starts at the next plenary attended.
 - May require submitting a letter of intent.
 - In 802.3 requires that you ask for it at the beginning of 802.3 WG opening or closing plenary sessions

Retaining Working Group voting membership

- Participate in 2 of the last 4 plenary sessions.
 - An interim may substitute for one of the 2 plenary sessions.
- Return working Group letter ballots
 - Membership may be lost for failing to respond or responding abstain for reason other than “lack of technical expertise” to 2 of the last 3 ballots.

Affiliation

- IEEE-SA Standards Board By-Laws, Section 5.2.1.5
 - (<http://standards.ieee.org/guides/bylaws/sect5.html>)
- Disclosure of Affiliation
 - “Every member and participant in a working group, Sponsor ballot, or other standards development activity shall disclose his or her affiliation.”
- What is “Affiliation”
 - “An individual is deemed "affiliated" with any individual or entity that has been, or will be, financially or materially supporting that individual's participation in a particular IEEE standards activity. This includes, but is not limited to, his or her employer and any individual or entity that has or will have, either directly or indirectly, requested, paid for, or otherwise sponsored his or her participation.”
- Affiliation and participation
 - “Failure to disclose every such affiliation may result in complete or partial loss of rights to participate in IEEE-SA activities. An individual is not excused from compliance with this policy by reason of any claim of a conflicting obligation (whether contractual or otherwise) that prohibits disclosure of affiliation.”

Ground rules

- Respect ... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices
- NO restrictive notices – presentations must be openly available
- Silence your cell phone ringers

Getting more information

Additional Resources

- IEEE 802 home page:
 - <http://ieee802.org/index.html>
- Links to IEEE and IEEE 802 procedural documents:
 - <http://ieee802.org/devdocs.html>
- Links to IEEE 802 WG and TAG pages:
 - <http://ieee802.org/dots.html>
- On-line training:
 - IEEE process course first course rolled out so far
 - <http://www.ieee802.org/training.htm>
- Ethernet Home Page: www.ieee802.org/3/
 - All past & present Ethernet projects
- Download published Ethernet standards
 - Free after 6 months: <http://standards.ieee.org/getieee802/>

Final Thoughts...

- Goal is to get to a Task Force
- To do that, focus on...
 - Producing the objectives
 - Producing the PAR
 - Producing the 5 criteria
 - Work on building consensus...
 - Leave the rest of it to the Task Force phase...
 - Plenty of time to work on solutions
 - Plenty of time to debate the text of the solutions

THANK YOU