



## Higher Speed Ethernet Update

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***APNIC IX SIG***

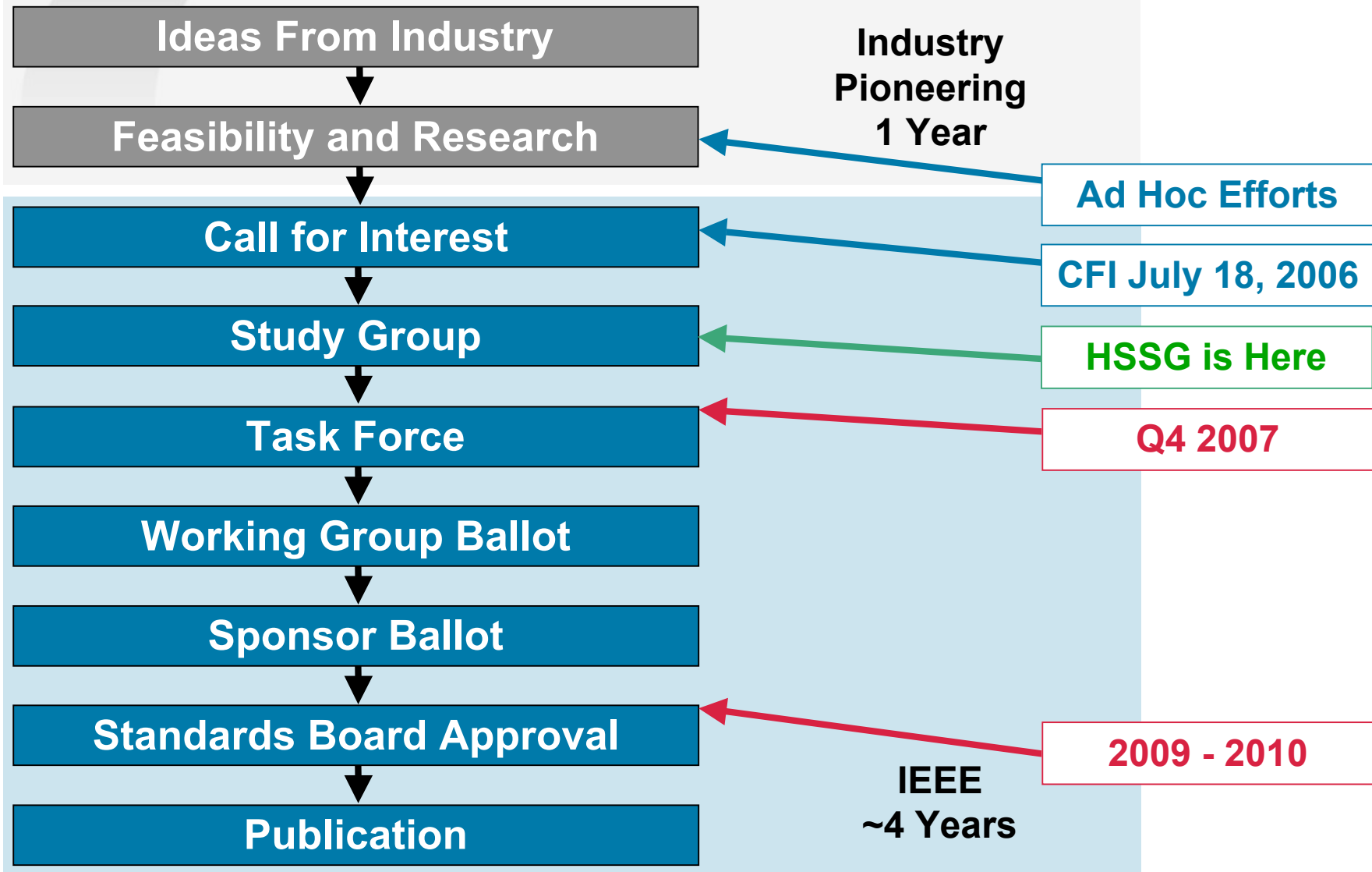
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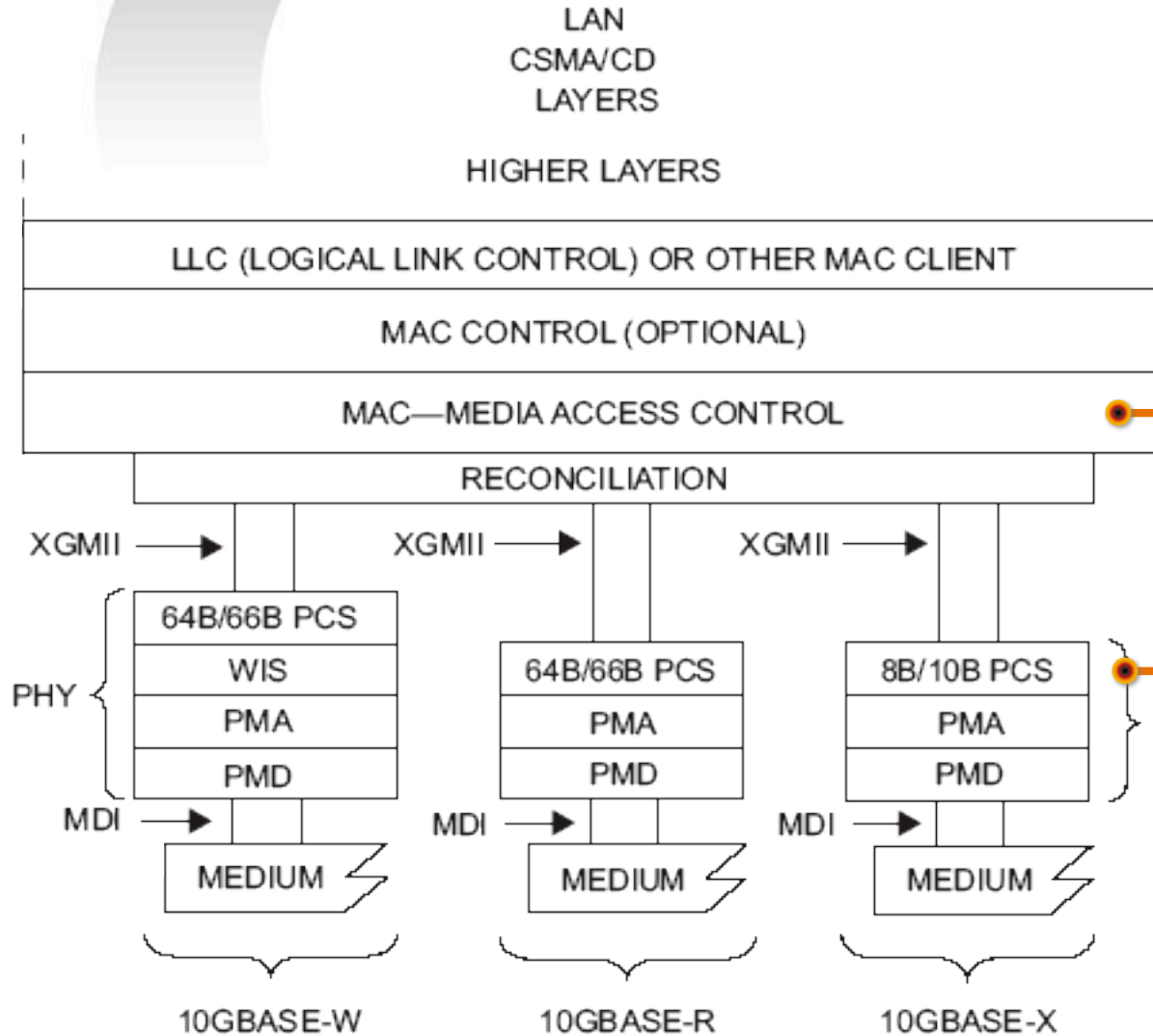
- End users from many different markets are asking for 100 GbE today
  - IXs
  - ISPs
  - Content
  - R&E and HPCC
- Already getting media attention and mention by C-level execs
- Participation in the HSSG by end users has never been this high
  - Thanks for your support...

# Higher Speeds Drive Density (or, Why Should I Care?)

- 100 GbE will benefit everyone
  - Even if you don't need it
  - Requires a fundamental advance in technology
- Drives 10 GbE port density up and cost down
- Possible line-rate combinations
  - 1 x 100 GbE port
  - 10 x 10 GbE ports
  - 100 x 1 GbE ports
  - And even more oversubscribed port density...
- Your bandwidth requirements and port densities are growing, not shrinking

# Birth of an IEEE Standard: It Takes About 5 Years





MAC data rate objective and architectural issues

PHY objectives

- Types
- Reaches

MDI - Medium Dependant Interface  
 PCS - Physical Coding Sublayer  
 PHY - Physical Layer Device  
 PMA - Physical Medium Attachment  
 PMD - Physical Medium Dependent  
 WIS - WAN Interface Sublayer  
 XGMII - 10 Gigabit Media Independent Interface



# Summary of Adopted Objectives (Requires 75% Approval)

Objective	Votes (Yes / No / Abstain)
Nov 16, 2006 Interim	
Support full-duplex operation only	All 73 / 0 / 4
Preserve the 802.3 / Ethernet frame format at the MAC Client service interface	All 76 / 0 / 6
Preserve minimum and maximum FrameSize of current 802.3 Std	All 74 / 0 / 4
Support a speed of 100 Gb/s at the MAC/PLS interface	All 67 / 9 / 14 802.3 26 / 6 / 11
Support at least 10km on SMF	All 86 / 0 / 4 802.3 40 / 0 / 4
Support at least 100 meters on OM3 MMF	All 61 / 3 / 27 802.3 33 / 2 / 13
Jan 19, 2007 Interim	
Support a BER better than or equal to $10^{-12}$ at the MAC/PLS service interface	All 68 / 0 / 4
Support at least 40km on SMF	All 38 / 10 / 32 802.3 12 / 6 / 16

All: All people in the room, 802.3: Registered 802.3 voters

- The HSSG must answer the 5 Criteria
  - Broad Market Potential
  - Compatibility
  - Distinct Identity
  - Technical Feasibility
  - Economic Feasibility
- The tough one – “Broad Market Potential”
  - Questions per IEEE 802
    - Broad sets of applications
    - Multiple vendors and numerous users
    - Balanced cost (LAN versus attached stations)
  - Issues
    - Desktop success (volumes much less than GbE)
    - 10 GbE volumes haven't met projections
  - Your input is needed here...!



- To subscribe to the HSSG reflector, send mail to:  
[ListServ@ieee.org](mailto:ListServ@ieee.org)

with the following in the body of the message:

```
subscribe stds-802-3-hssg <your first name> <your last name>  
end
```

- HSSG web page URL:

<http://grouper.ieee.org/groups/802/3/hssg/index.html>

- IEEE 802 Plenary

- [http://www.ieee802.org/meeting/future\\_meetings.html](http://www.ieee802.org/meeting/future_meetings.html)

- March 11 – 16, 2007  
Orlando, FL, USA

- IEEE 802.3 Interims

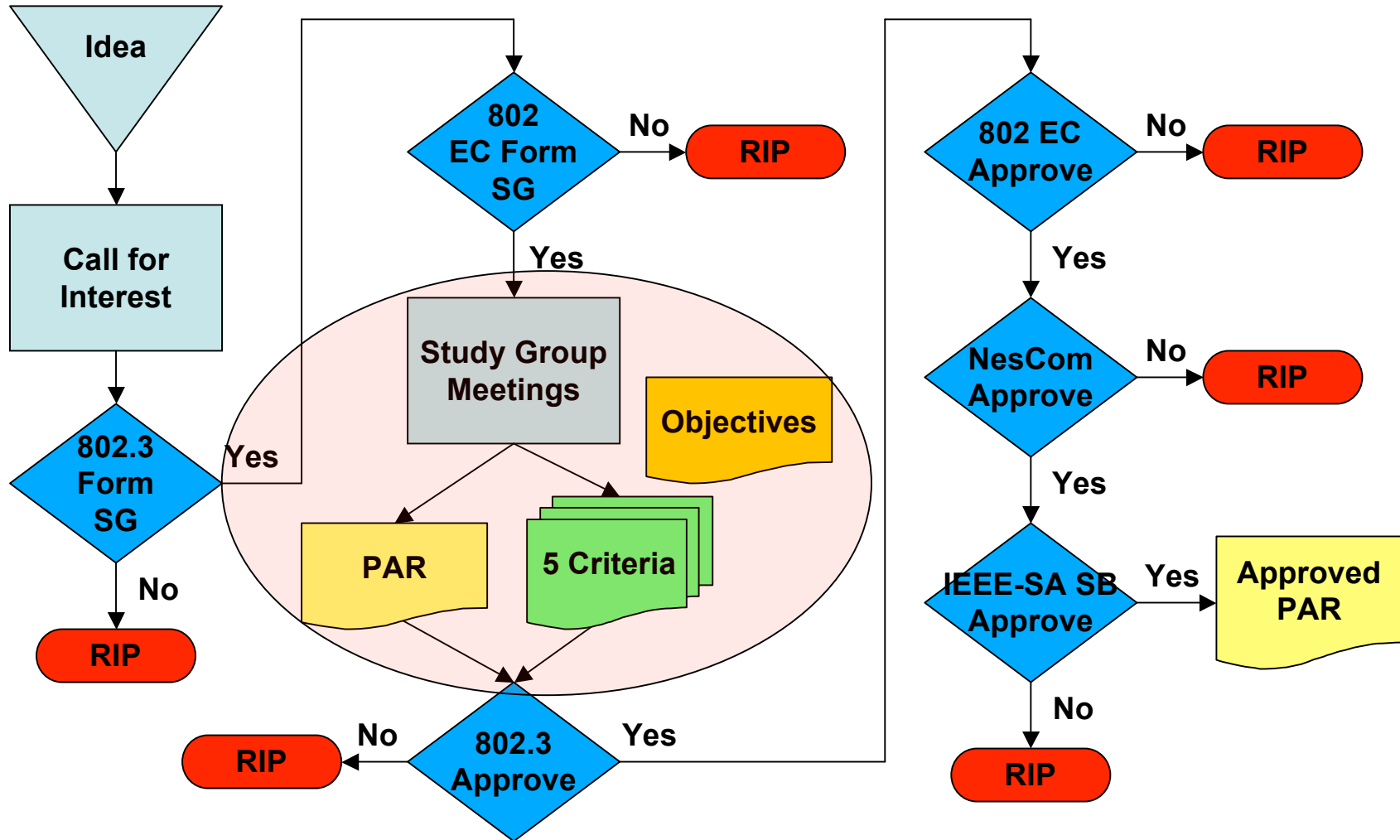
- <http://grouper.ieee.org/groups/802/3/interims/index.html>

- April 17 – 19 or April 24 - 26, 2007  
Ottawa, Canada
  - May 28 – 31, 2007  
Geneva, Switzerland

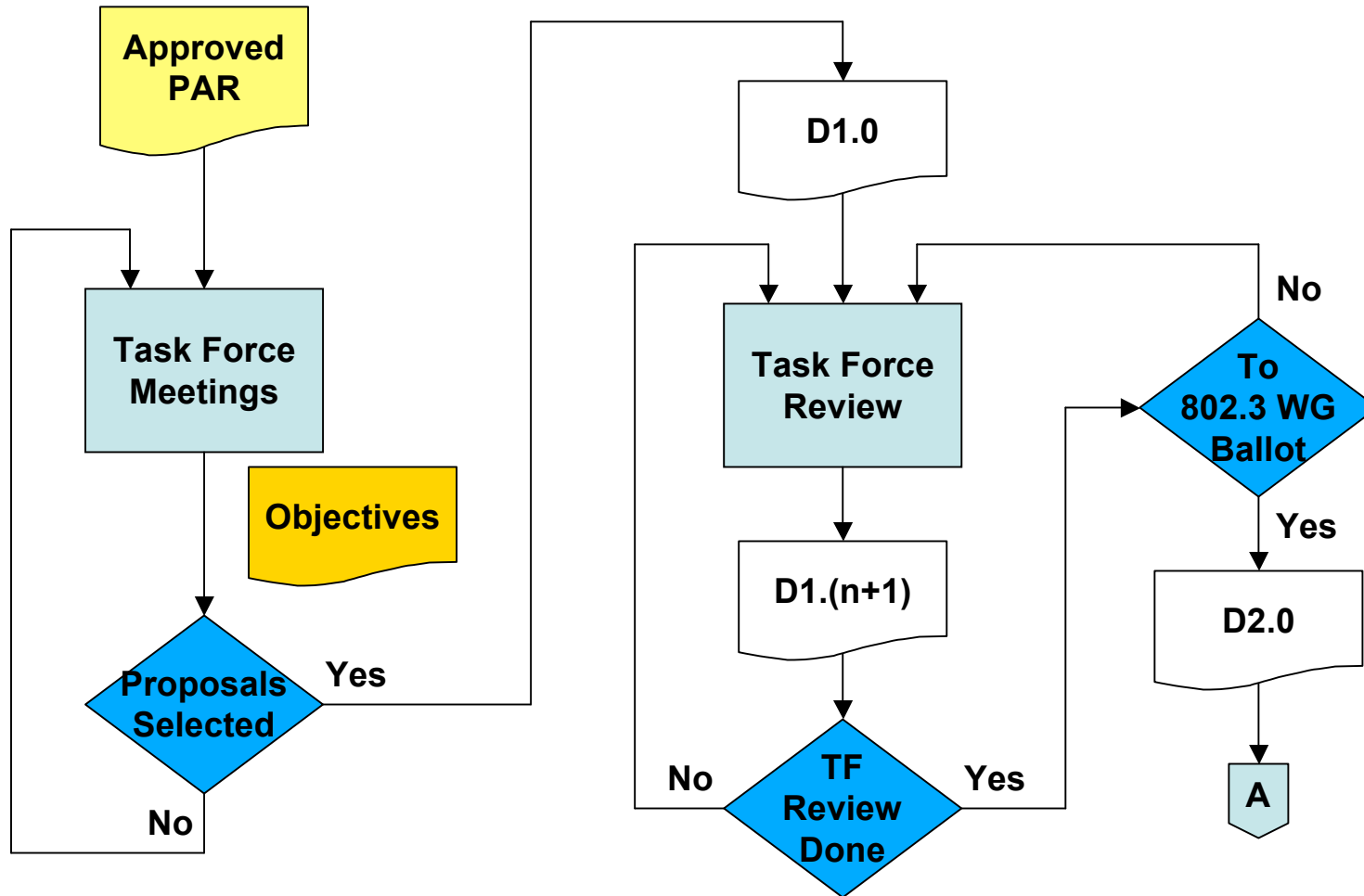
Thank You

FORCE ™

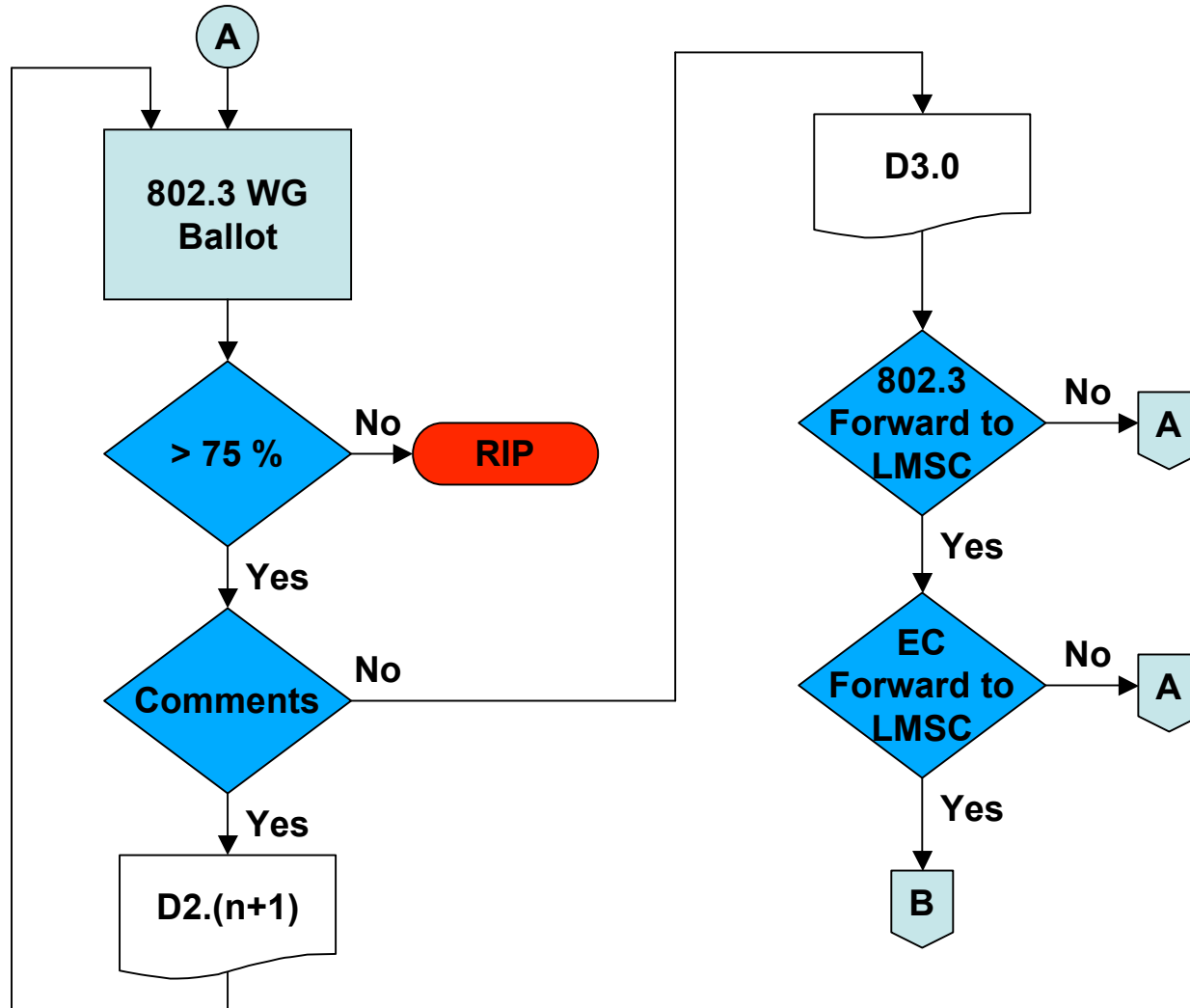
# IEEE Standards Process (1/4)



# IEEE Standards Process (2/4)



# IEEE Standards Process (3/4)



# IEEE Standards Process (4/4)

