



# IEEE P802.3ap

## Backplane Ethernet Task Force

### Agenda and General Information

San Antonio, TX  
November 16, 2004



# Agenda

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- Welcome and Introductions
- Approve Agenda
- Approve Meeting Minutes
- Goals for this Meeting
- Task Force Organization
- Reflector and Web
- Ground Rules
- IEEE
  - Structure
  - Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Review Task Force Status
- Presentations
- Motion Madness
- Future Meetings



# Presentation Agenda (Tuesday 11/16)

<b>8:30 AM</b>		<b>Agenda and General Information</b>	<b>0:30</b>
9:00 AM	Palkert	OIF liaison report	0:15
9:15 AM	van Doorn	T11.2 Liaison Report	0:05
9:20 AM	van Doorn	Editor's Report	0:10
9:30 AM	Healey	Channel Model Ad Hoc Report	0:15
9:45 AM	Kundu	Current Practices Channel Model Anatomy	0:30
<b>10:15 AM</b>		<b>Break</b>	<b>0:15</b>
10:30 AM	Mellitz	Channel Design Parameter Impact on the SDD21 and Pulse	0:45
11:15 AM	Spagna	Short Backplanes and the effect of Reflections	0:30
11:45 AM	Cain	Ripple Effect in S21	0:15
<b>12:00 PM</b>		<b>Lunch</b>	<b>1:15</b>
1:15 PM	Moore	Specifying Channels	0:35
1:50 PM	Lerer	Proposal to modify OIF Stat Eye Methodology for 802.3ap Signaling Evaluation and Channel Compliance	0:30
2:20 PM	Thaler	Transceiver friendly auto-negotiation signaling for 802.3ap	0:30
2:50 PM	Zheng	XAUI with equalization over backplane	0:10
<b>3:00 PM</b>		<b>Break</b>	<b>0:15</b>
3:15 PM	Taich	Selecting optimal pre-emphasis level for 4-lanes 10G transmission - Experimental Data	0:35
3:50 PM	Altmann	Signaling Ad Hoc Report Out	0:30
4:20 PM	Altmann	Signaling Comparison Spreadsheet Proposal	0:30
4:50 PM	D'Ambrosia	What Channels Should be considered by the IEEE 802.3ap Signaling Ad Hoc	0:20
5:10 PM	Anderson	Stat Eye Analyses of Tyco Channels / Agreement With IBM	0:20
<b>5:30 PM</b>		<b>Break</b>	



# Presentation Agenda (Wednesday 11/17)

8:30 AM	Srivastava	Comparison of NRZ and Duo-Binary Receivers with and without Precoding	0:20
8:50 AM	Barazande-Pour	Duobinary Transmission over ATCA Backplanes	0:30
9:20 AM	Adamiecki	Scalability of Duobinary Signaling to 25 Gb/s for 100 GbE Applications	0:40
<b>10:00 AM</b>		<b>Break</b>	<b>0:15</b>
10:15 AM	Gaither	Proposal for 10G Serial PMD using Unified Signalling	0:45
11:00 AM	Seemann	Unified Signaling Considerations	0:30
11:30 AM	Brink	Link Initialization Protocol	0:30
<b>12:00 PM</b>		<b>Lunch</b>	<b>1:30</b>
1:30 PM	Altmann	Adaptive Tx Equalization	0:30
2:00 PM		Discussion	1:00
<b>3:00 PM</b>		<b>Break</b>	<b>0:15</b>
3:15 PM		Discussion	2:15
<b>5:30 PM</b>		<b>Break</b>	



# Goals for this Meeting

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- Work toward IEEE P802.3ap Draft 1.0.
- Hear presentations
- Fill in gaps in the baseline.
  - Backplane channel specifications
  - 10GBASE-KR PMD
- Formalize points of agreement with motions.
  - Adopt what proposals we can to improve focus and narrow the scope of work in January.



# Task Force Organization

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- Task Force Chair
  - Adam Healey ([ahealey@agere.com](mailto:ahealey@agere.com))
  
- Task Force Secretary
  - John D'Ambrosia ([john.dambrosia@tycoelectronics.com](mailto:john.dambrosia@tycoelectronics.com))
  
- Chief Editor
  - Schelto van Doorn ([schelto.vandoorn@intel.com](mailto:schelto.vandoorn@intel.com))
  
- Channel Model Ad Hoc Chair
  - Joel Goergen ([joel@force10networks.com](mailto:joel@force10networks.com))
  
- Signaling Ad Hoc Chair
  - Mike Altmann ([michael.w.altmann@intel.com](mailto:michael.w.altmann@intel.com))



# Reflector and Web

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- To subscribe to the IEEE P802.3ap Backplane Ethernet Task Force reflector send an email to:  
[\*listserv@ieee.org\*](mailto:listserv@ieee.org)

with the following in the body of the message (do not include “<>”):  
***subscribe stds-802-3-blade <yourfirstname> <yourlastname>***

For complete instructions on reflector usage, subscription, and unsubscription:

<http://ieee802.org/3/ap/reflector.html>

- IEEE P802.3ap Task Force web page:  
<http://www.ieee802.org/3/ap/>
- Channel Model Ad Hoc web page:  
[http://www.ieee802.org/3/ap/public/channel\\_adhoc](http://www.ieee802.org/3/ap/public/channel_adhoc)
- Signaling Ad Hoc web page:  
[http://www.ieee802.org/3/ap/public/signal\\_adhoc](http://www.ieee802.org/3/ap/public/signal_adhoc)



# Ground Rules

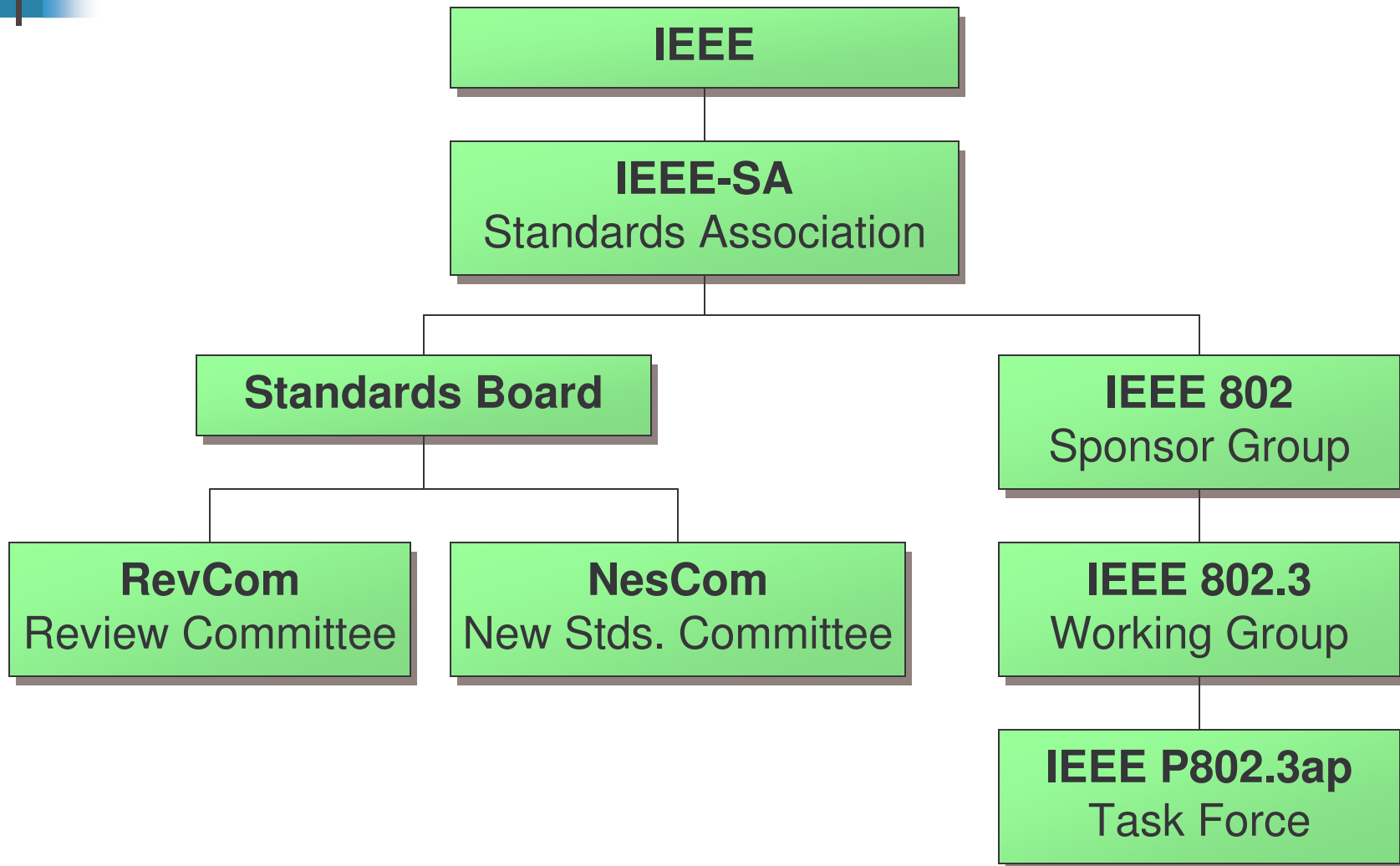
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- 802.3 Rules apply
  - Foundation based upon Robert's Rules of Order
- Anyone in the room may speak
- Anyone in the room may vote
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- NO restrictive notices





# IEEE Structure





# Bylaws and Rules

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- IEEE Standards Association (IEEE-SA):  
<http://standards.ieee.org/sa>
- Bylaws of the IEEE-SA Standards Board:  
<http://standards.ieee.org/guides/bylaws/sb-bylaws.pdf>
- IEEE LAN/MAN Standards Committee (LMSC)  
Operating Rules:  
<http://www.ieee802.org/rules.pdf>
- IEEE 802.3 Working Group Operating Rules:  
<http://www.ieee802.org/3/rules/>



# IEEE-SA Standards Board Bylaws on Patents in Standards

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## 6. Patents

IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard. This assurance shall be provided without coercion and prior to approval of the standard (or reaffirmation when a patent becomes known after initial approval of the standard). This assurance shall be a letter that is in the form of either

- a) A general disclaimer to the effect that the patentee will not enforce any of its present or future patent(s) whose use would be required to implement the proposed IEEE standard against any person or entity using the patent(s) to comply with the standard or
- b) A statement that a license will be made available without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination

This assurance shall apply, at a minimum, from the date of the standard's approval to the date of the standard's withdrawal and is irrevocable during that period.

Approved by IEEE-SA Standards Board – December 2002



# Inappropriate Topics for IEEE WG Meetings

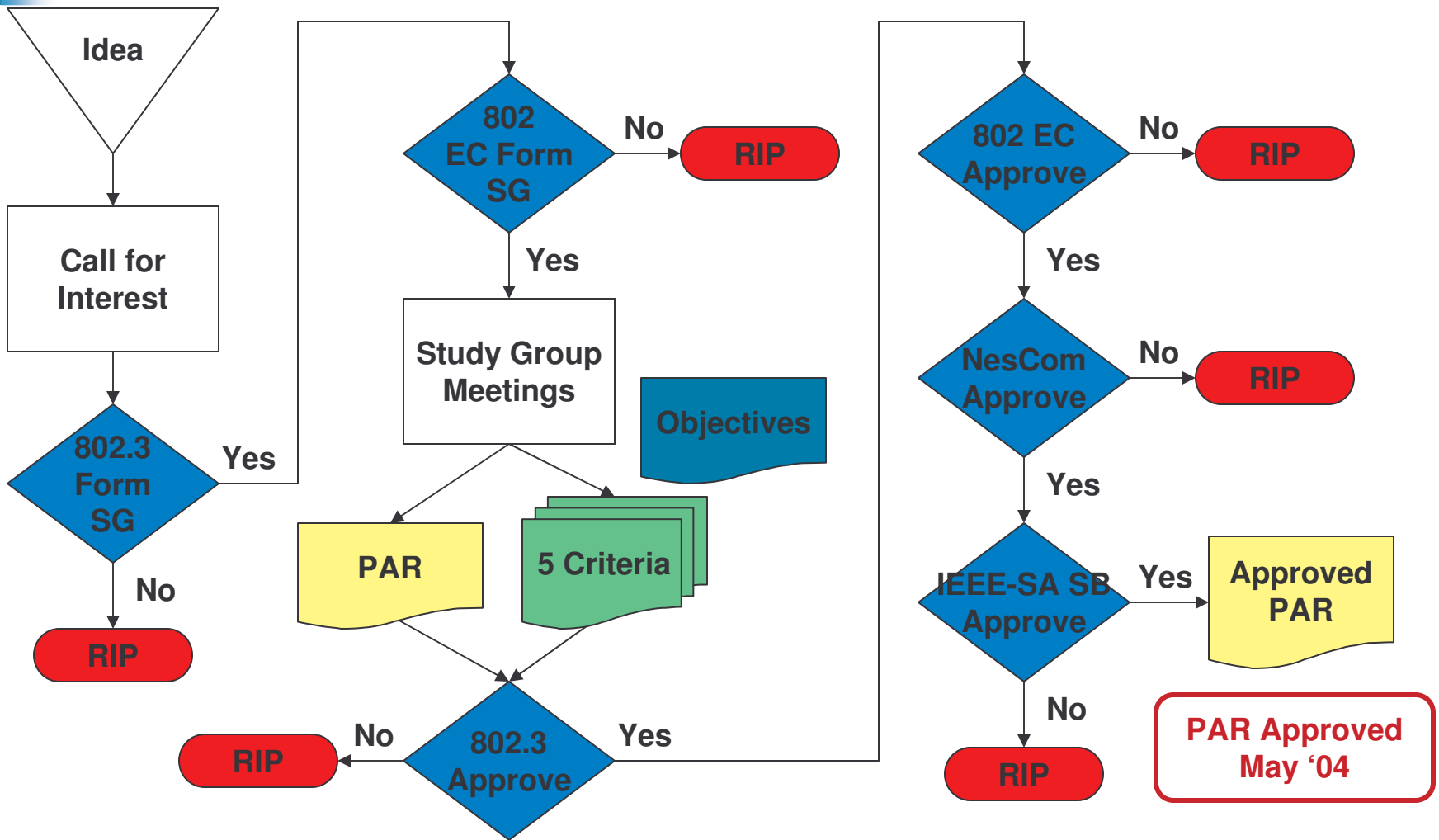
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- Don't discuss licensing terms or conditions
- Don't discuss product pricing, territorial restrictions or market share
- Don't discuss ongoing litigation or threatened litigation
- Don't be silent if inappropriate topics are discussed... do formally object.

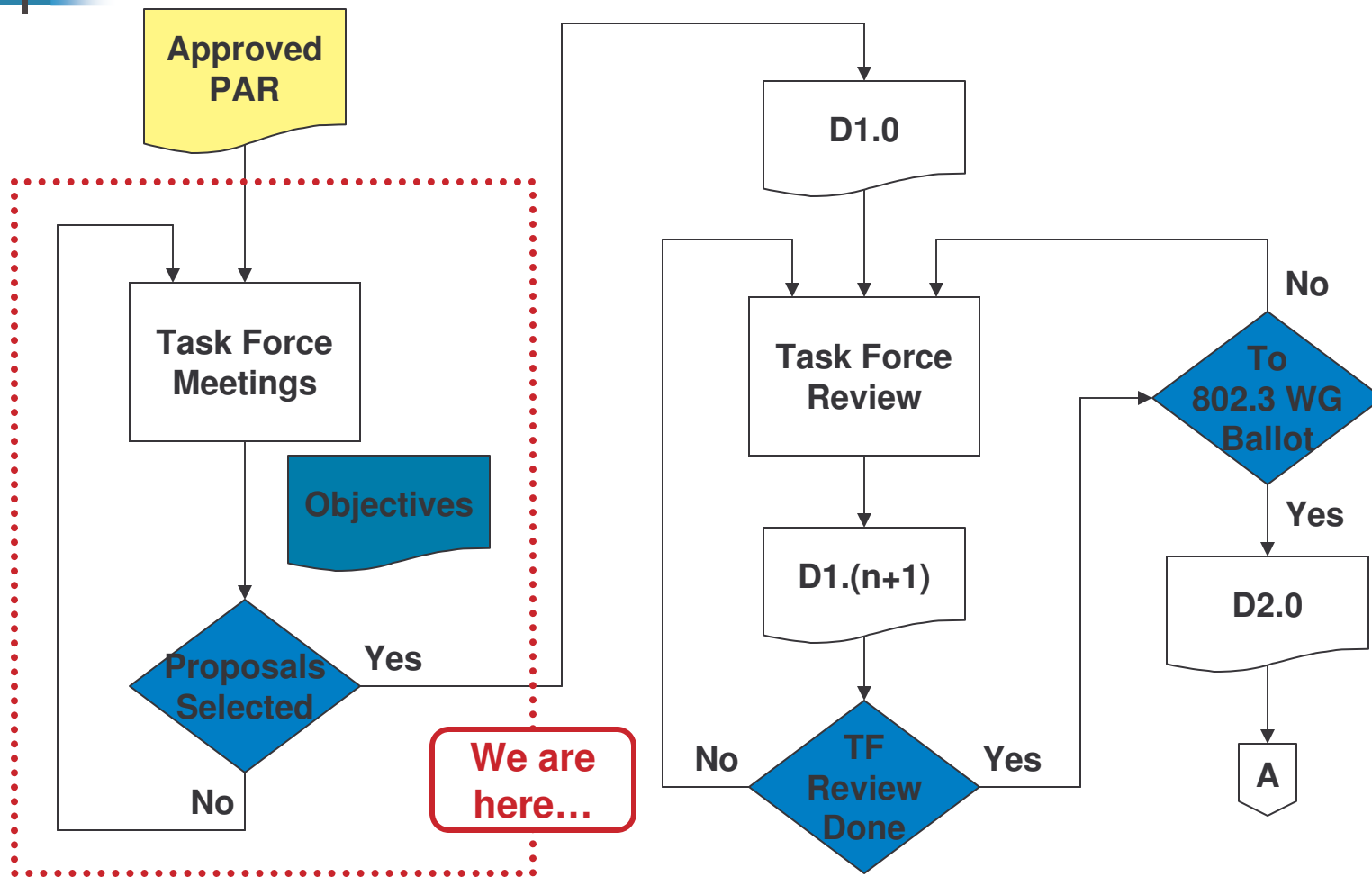
**If you have questions, contact the IEEE Patent Committee Administrator at [patcom@ieee.org](mailto:patcom@ieee.org)**

Approved by IEEE-SA Standards Board – December 2002

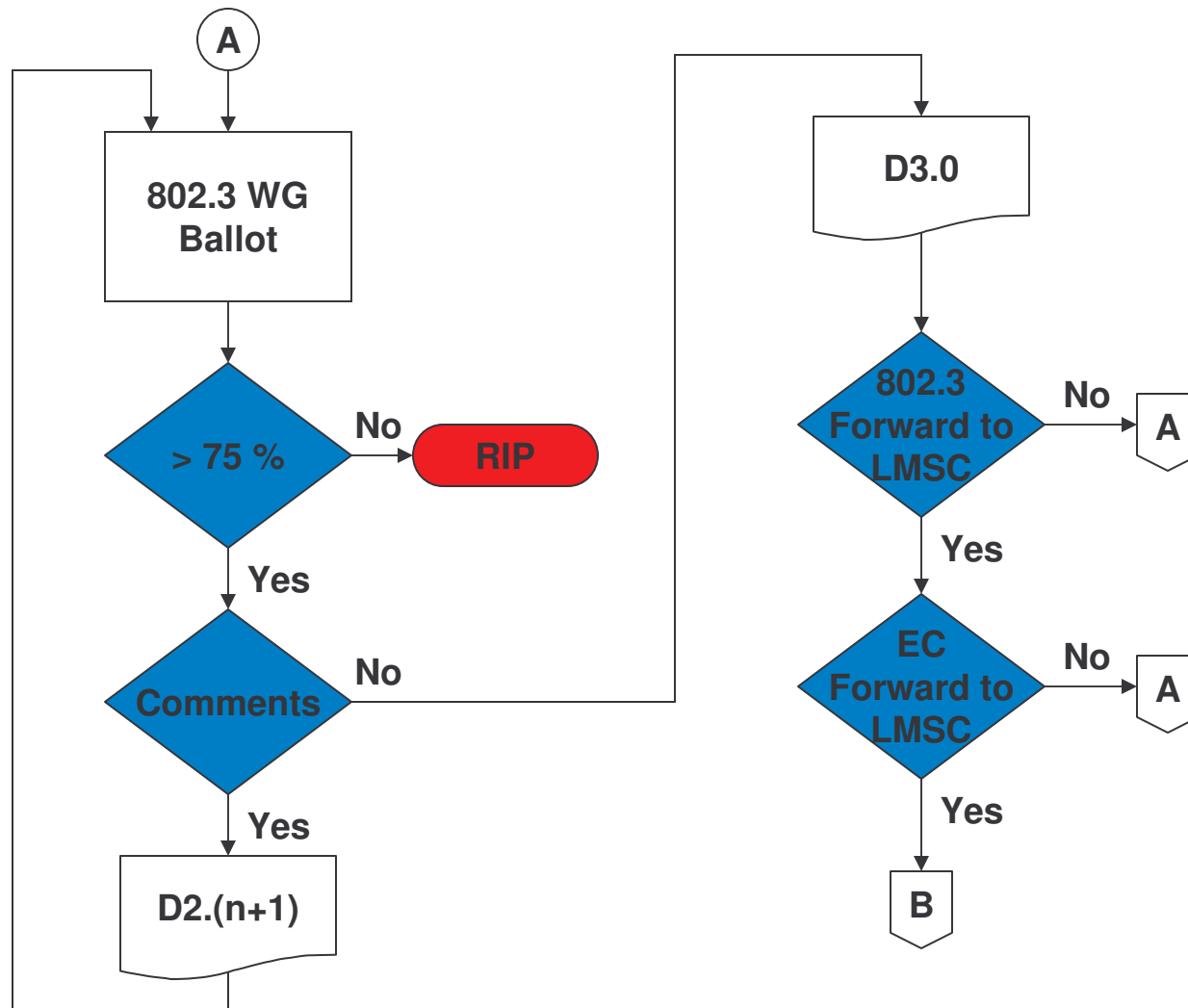
# IEEE Standards Process



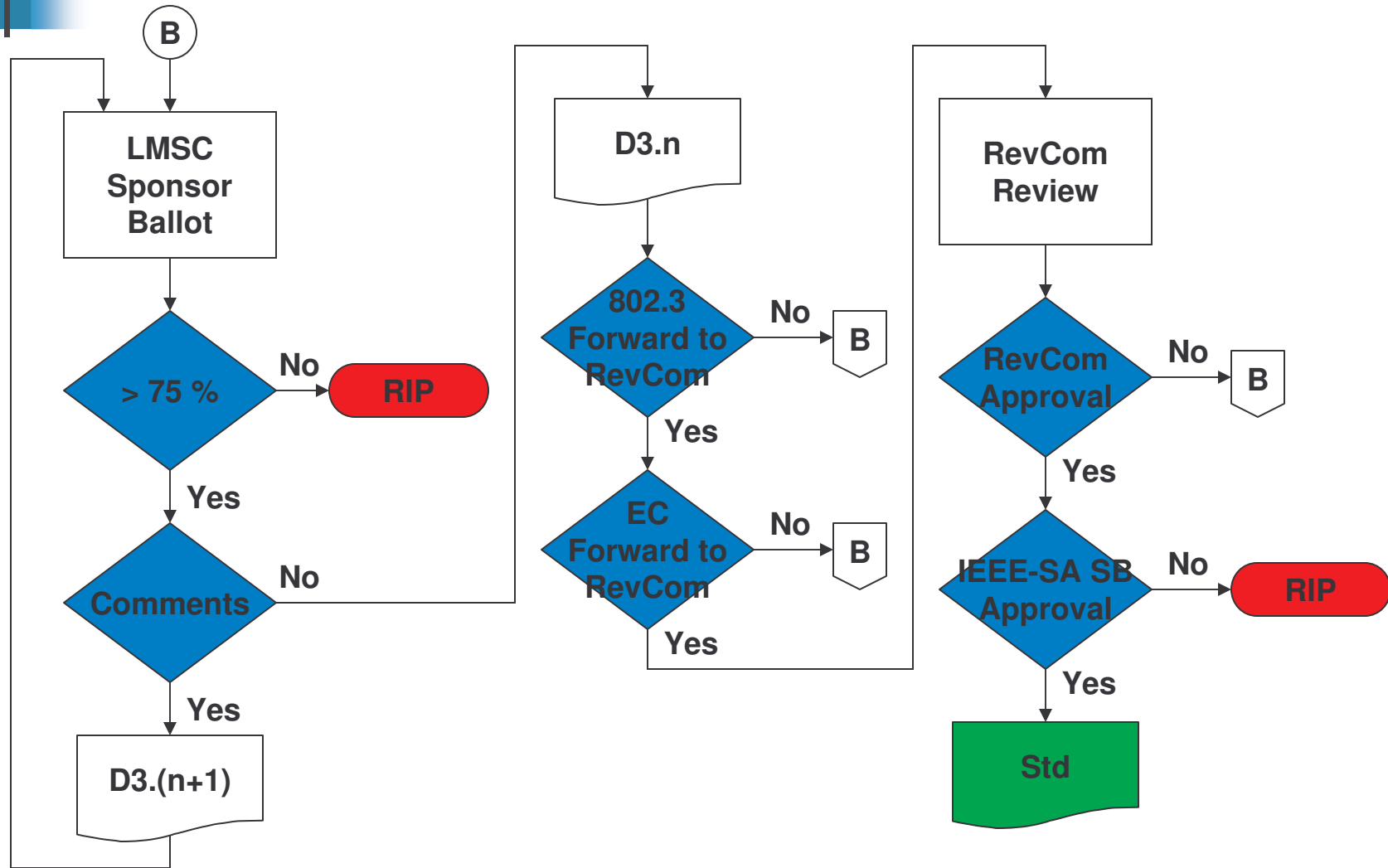
# IEEE Standards Process (cont.)



# IEEE Standards Process (cont.)



# IEEE Standards Process (cont.)







# IEEE P802.3ap Task Force Documents

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- Approved PAR

<http://standards.ieee.org/board/nes/projects/802-3ap.pdf>

- 5 Criteria

[http://ieee802.org/3/ap/802\\_3\\_ap\\_5criteria.pdf](http://ieee802.org/3/ap/802_3_ap_5criteria.pdf)

- Objectives

[http://ieee802.org/3/ap/802\\_3\\_ap\\_objectives.pdf](http://ieee802.org/3/ap/802_3_ap_objectives.pdf)



# IEEE P802.3ap Objectives

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- **Preserve the 802.3/Ethernet frame format at the MAC Client service interface.**
- **Preserve min. and max. frame size of current 802.3 Std.**
- **Support existing media independent interfaces.**
- **Support operation over a single lane across 2 connectors over copper traces on improved FR-4 for links consistent with lengths up to at least 1m.**
  - **Define a 1 Gb/s PHY**
  - **Define a 10 Gb/s PHY**
- **Define a 4-lane 10Gb/s PHY for operation over the 802.3ap channel model.**
- **Consider auto-negotiation.**
- **Support BER of  $10^{-12}$  or better.**
- **Meet CISPR/FCC Class A.**



# Interim Meeting in Review

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- September 27-29, 2004
  - Ottawa, Ontario
  - 31 Technical Presentations
  
- Baseline proposals adopted:
  - 1Gb/s serial port type
  - 10Gb/s 4-lane port type
  - PCS and PMA for 10Gb/s serial port type
  - Auto-Negotiation
  
- Port type naming convention adopted.
  
- System demarcation points (test points) adopted.



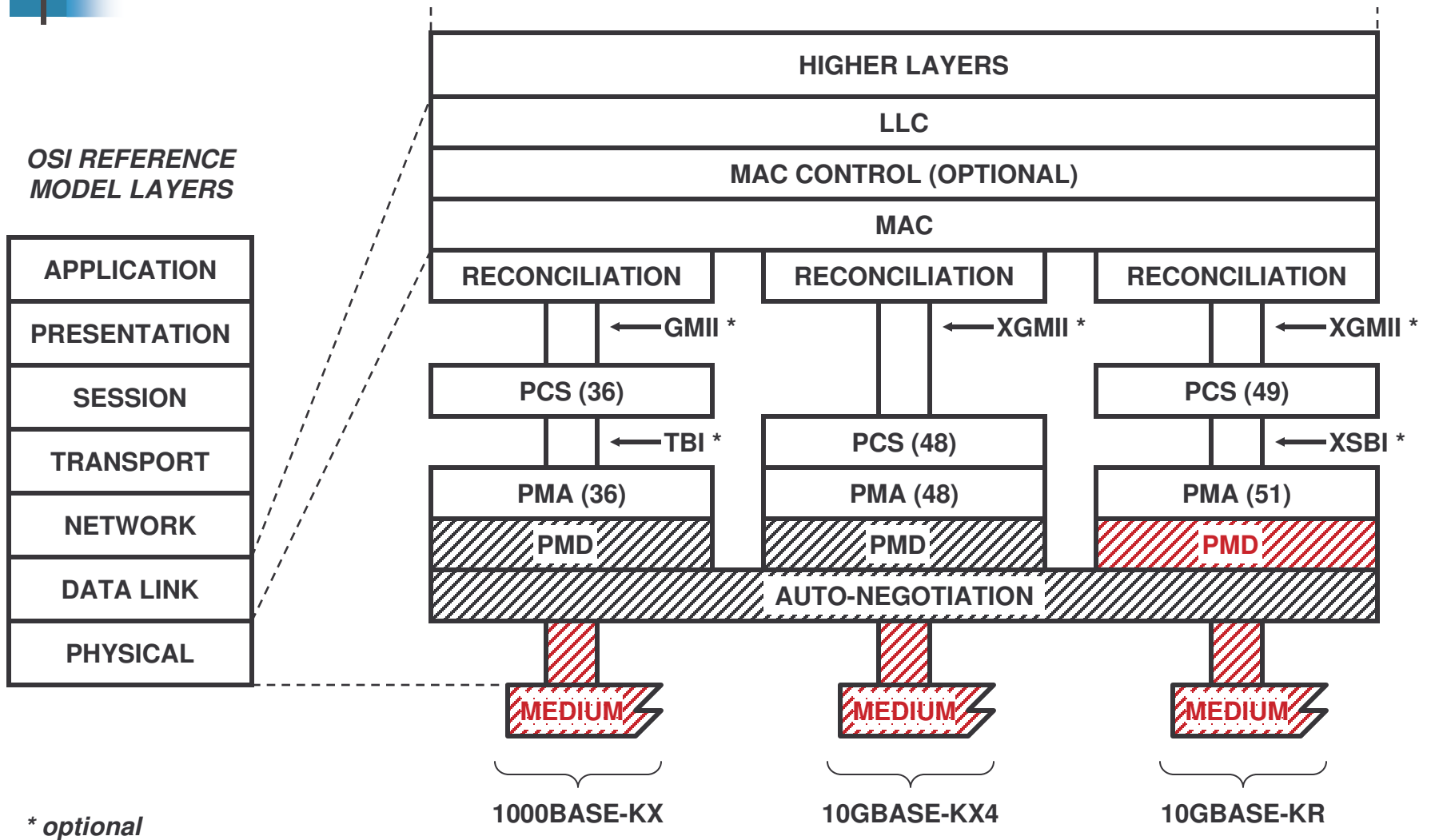
# Port Type Naming Convention

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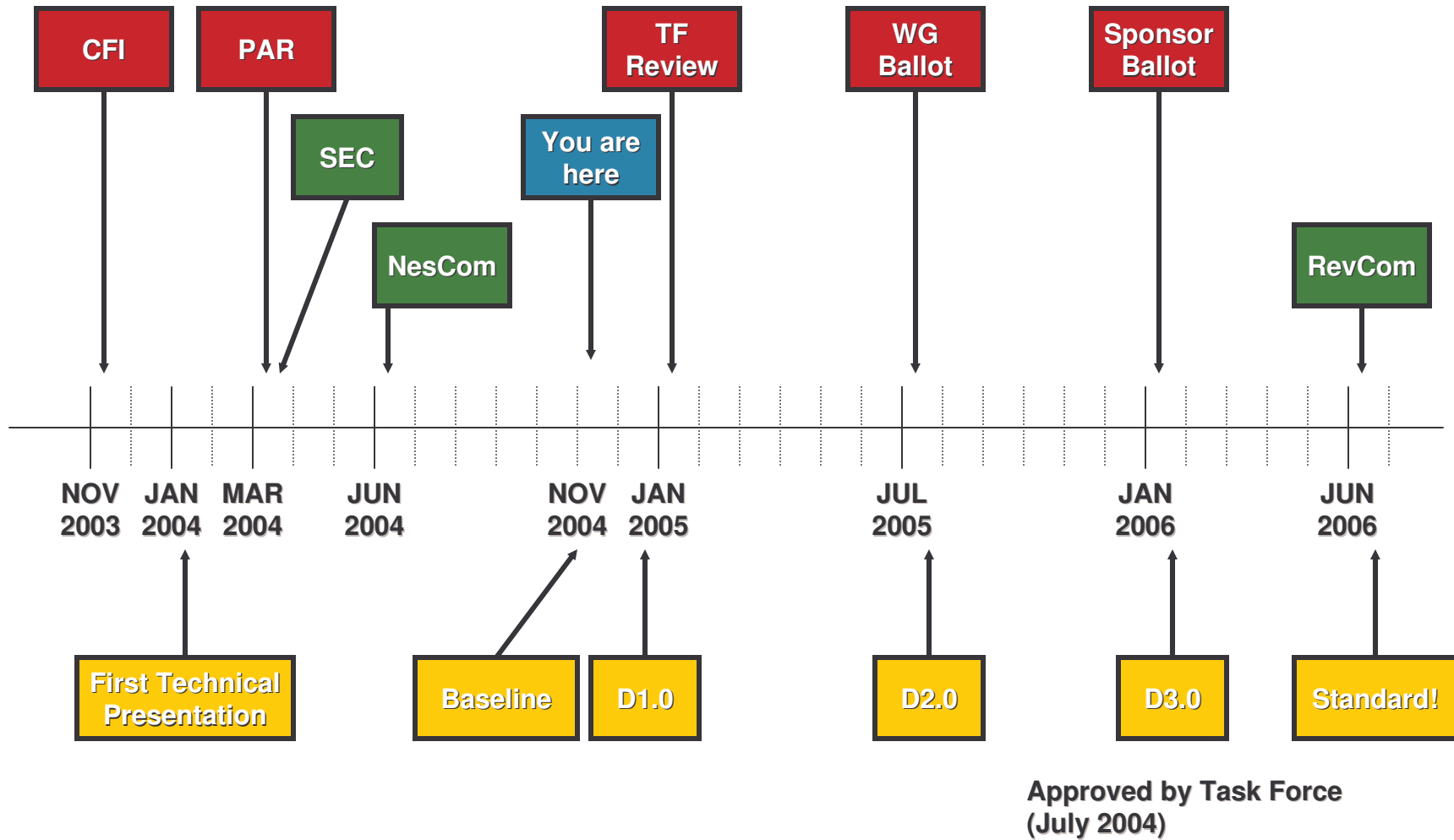
- 1-Gigabit Serial PMD
  - 1000BASE-KX
- 10-Gigabit 4-Lane PMD
  - 10GBASE-KX4
- 10-Gigabit Serial PMD
  - 10GBASE-KR

***Convention adopted by TF, September 2004 (All: 45/0/5)***

# IEEE P802.3ap Overview



# IEEE P802.3ap Timeline



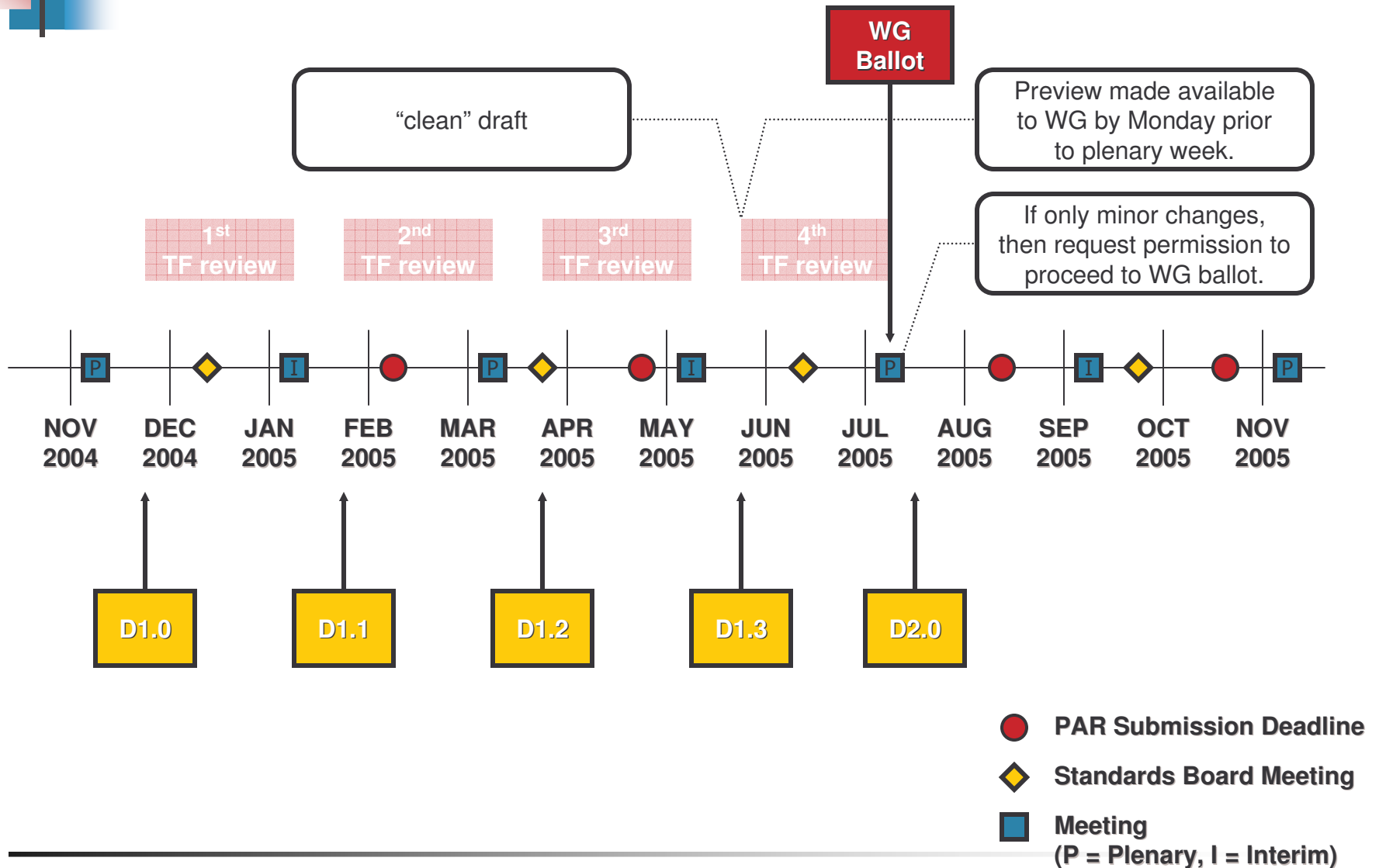


# Process Overview

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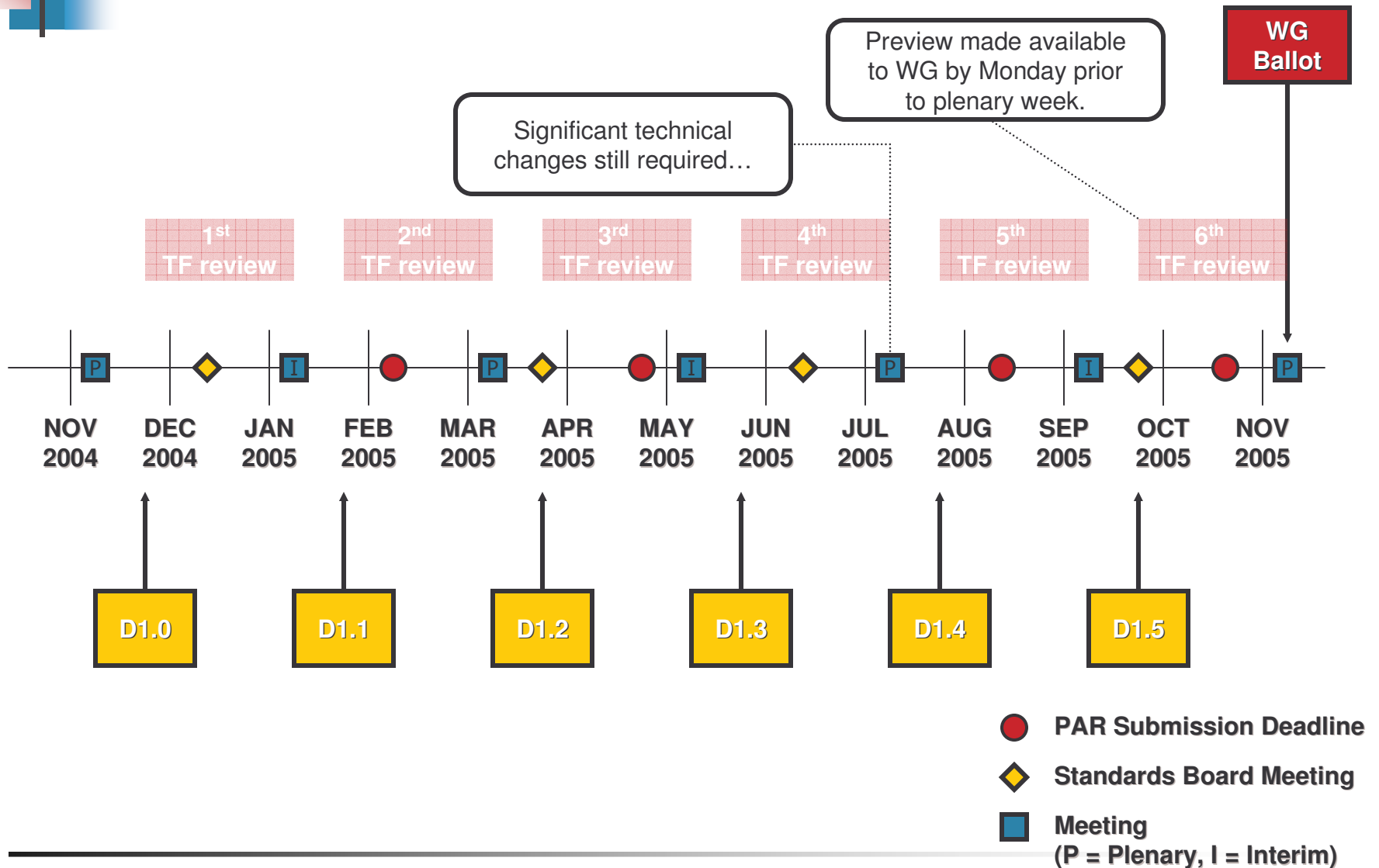
- Adopt proposals for the formation of a baseline
- Baseline is used to create Draft 1.0
- Draft 1.0 is reviewed by the Task Force
  - Comments on the draft are generated and resolved
  - Multiple iterations
  - When Task Force review is completed and the draft is technically complete...
- ...ask the 802.3 working group to authorize a working group ballot (Draft 2.0)...

# Timeline Detail (Target)





# If the schedule slips, it slips 4 months





Presentations...



# Motion Madness...



# Future Meetings

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- January 2005 Interim
  - Date TBD
  - Location TBD
  
- March 2005 Plenary
  - Date: March 13-18, 2005
  - Location: Atlanta, GA



# Adjourn

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# Thank You!