

**IEEE 802.3**  
**10GBASE-T Study Group**  
**Agenda and General Information**

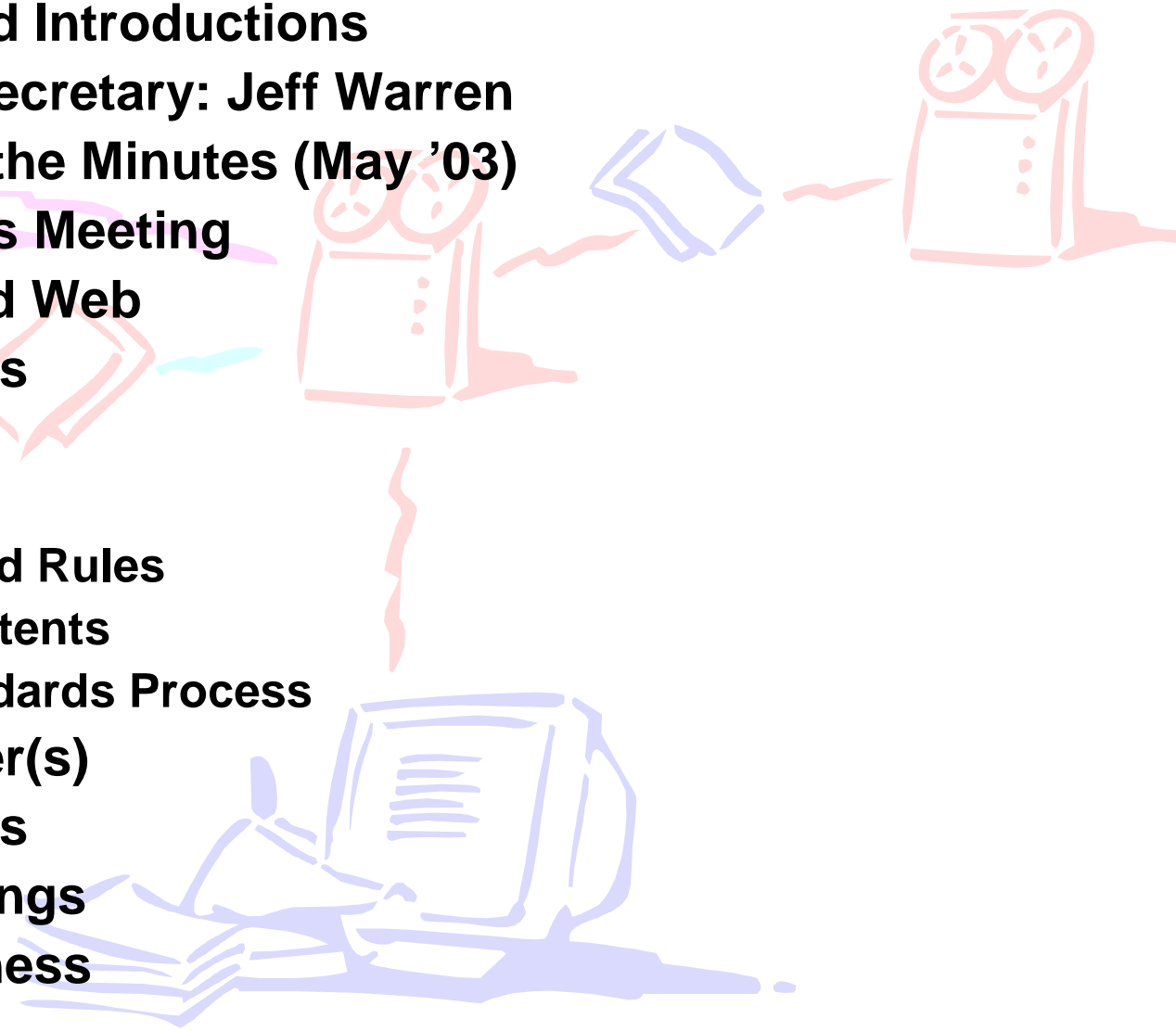
**San Francisco, CA**  
**July 22, 2003**

**Brad Booth, Chair**

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# Agenda

- Welcome and Introductions
- Recording Secretary: Jeff Warren
- Approval of the Minutes (May '03)
- Goals for this Meeting
- Reflector and Web
- Ground Rules
- IEEE
  - Structure
  - Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Liaison Letter(s)
- Presentations
- Future Meetings
- Motion Madness



# Put Cell Phones on Stun!!



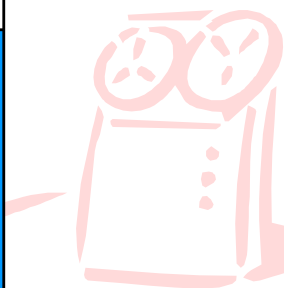
# 10GBASE-T

- **10 Gigabit Ethernet over horizontal structured, twisted-pair copper cabling**
- **10 Gigabit Ethernet MAC and media independent interface as specified in IEEE 802.3ae™, 2002**
- **Copper cabling is assumed to be ISO/IEC-11801:2002 Class D or better copper cable**

# Goals for this Meeting

- **Hear presentations concerning:**
  - **Justification in terms of the 5 criteria (aka the critters)**
  - **Goals and objectives for a project**
  - **Technical proposals for developing a baseline**
- **Refine and enhance:**
  - **Project Approval Request (PAR)**
  - **5 Criteria**
  - **10GBASE-T Objectives**

# Meeting Map

	MON	TUE	WED	THU	FRI
08:00	SEC				
08:30		10GBT Opening	10GBT Presentations	10GBT Closing & Motion Madness	
09:00					
09:30		10GBT Presentations			
10:00		Break			
10:30	802 Plenary				
11:00					
11:30	Lunch	Lunch	Lunch	Lunch	
12:00					
12:30					
13:00	802.3 Plenary	10GBT Presentations	5 Criteria Discussion	802.3 Plenary	SEC
14:00					
14:30					
15:00					
15:30					
16:00					
16:30					
17:00					
17:30	Dinner	Dinner	Time Off		
18:00	Tutorial #1				
18:30			Social Reception		
20:00	Tutorial #2	Tutorial #3			
20:30					
21:00					
21:30					

# Reflector and Web

- To subscribe to any of the 10GBASE-T reflectors send an email to:

*[majordomo@ieee.org](mailto:majordomo@ieee.org)*

with the following in the body of the message:

*[subscribe stds-802-3-10GBT <your email address>](#)*

*[subscribe stds-802-3-10GBT-Modeling <your email address>](#)*

*[subscribe stds-802-3-10GBT-Cabling <your email address>](#)*

- 10GBASE-T Study Group web page URL:

*<http://www.ieee802.org/3/10GBT/>*



# IEEE 802.3ah & 10GBASE-T September meeting

**PORTONOVO – Ancona- ITALY hosted by AETHRA**



**15-18 September 2003**

Portonovo is 19km from Airport (R. Sanzio FALCONARA)  
and 10km from Ancona city centre (train station)







## Proposed agenda

Conference rooms are in "LA FONTE" hotel

Guest rooms are available NOW in 3 different hotels

DEADLINE for IEEE guest room reservations is 30 July

Room reservations made through ADVANCED meeting planners

Room rates (incl breakfast & taxes) 85EURO & up

Registration "on line" fee is 350EURO

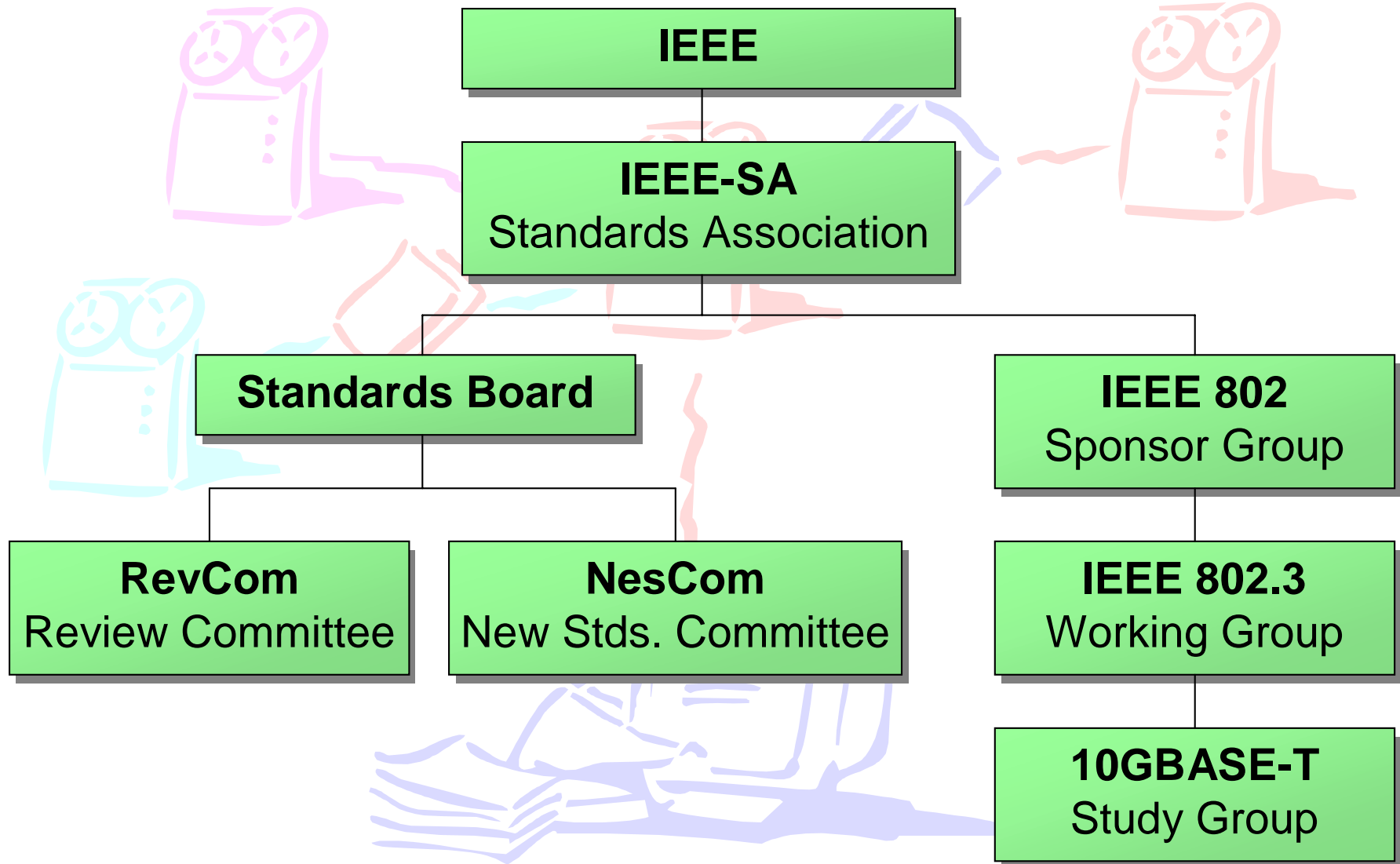
Working group		
Monday 15		
8AM 12 AM	EFM all groups	
1PM 6 PM	EFM breakout session	
Tuesday 16		
8AM 12 AM	EFM breakout session	
1PM 6 PM	EFM breakout session	
Wednesday 17		
8AM 12 AM	EFM breakout session	10GBASE-T
1PM 6 PM	EFM breakout session	10GBASE-T
Thursday 18		
8AM 12 AM	EFM breakout session	10GBASE-T
1PM 6 PM	EFM all groups	10GBASE-T



# Ground Rules

- **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

- **Bylaws of the IEEE Standards Association (IEEE-SA):**

<http://standards.ieee.org/sa/sa-bylaws.pdf>

- **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

## 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

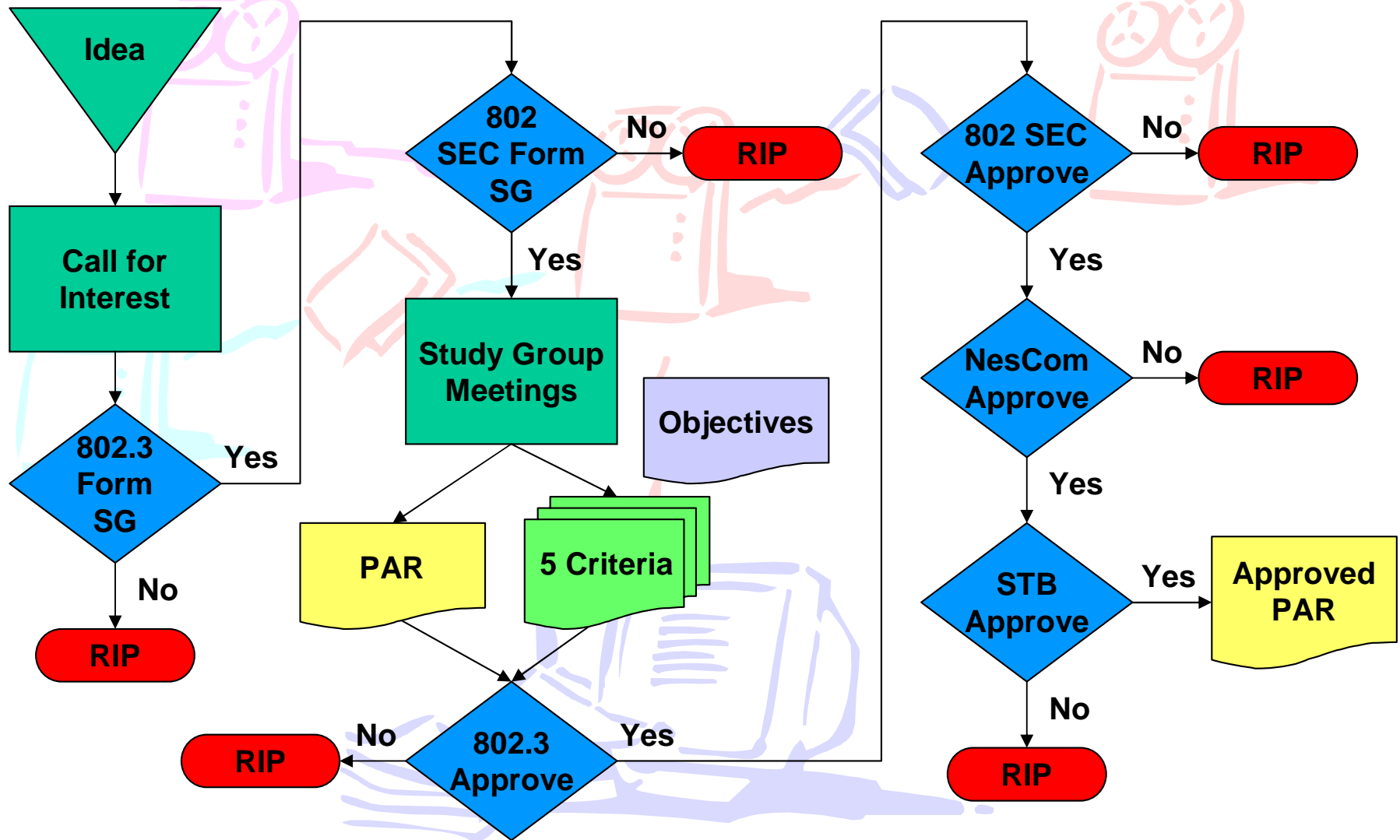
# Inappropriate Topics for IEEE WG Meetings

- 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.

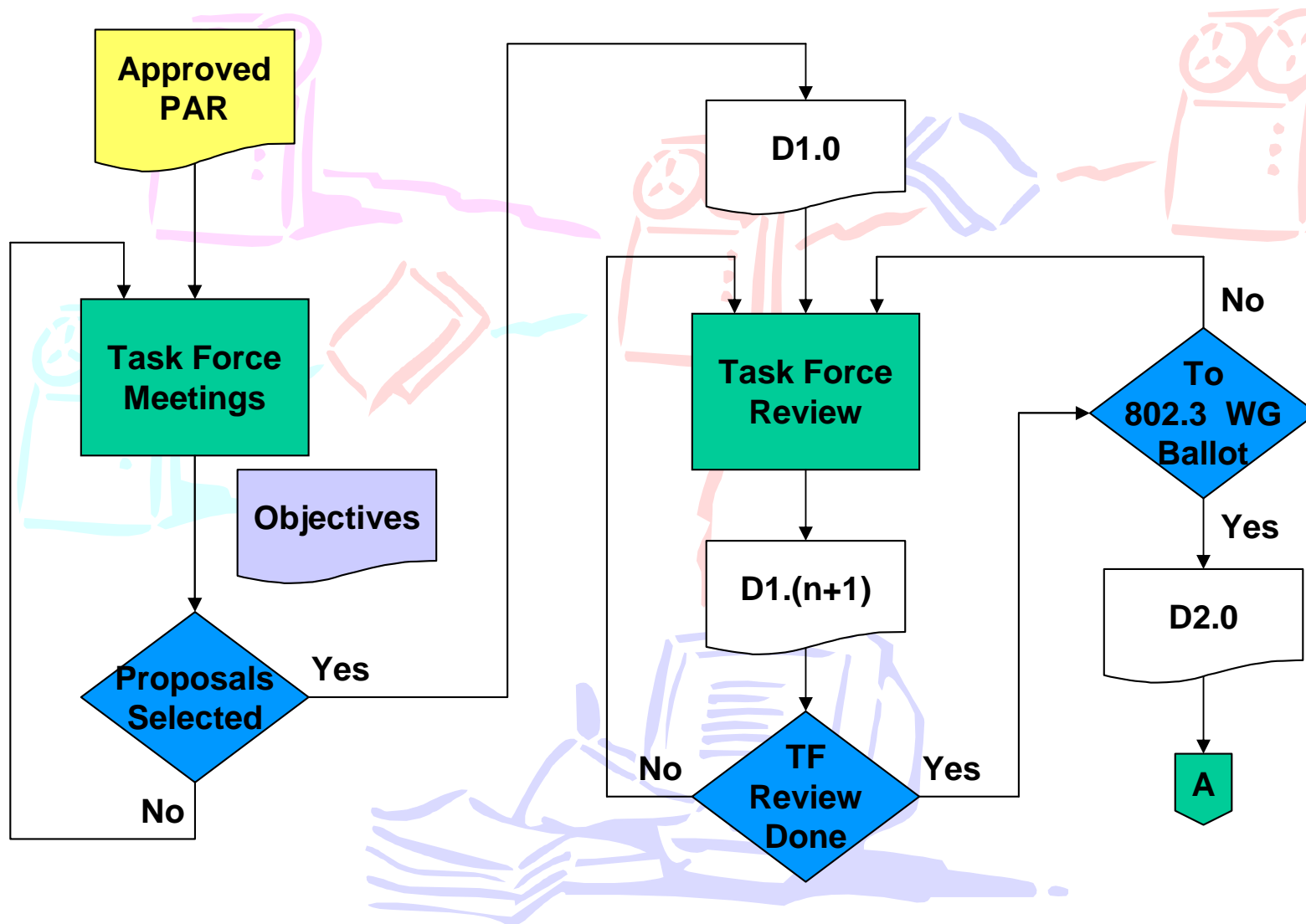
**If you have questions,  
contact the IEEE Patent Committee Administrator  
at [patcom@ieee.org](mailto:patcom@ieee.org)**

Approved by IEEE-SA Standards Board – December 2002

# IEEE Standards Process

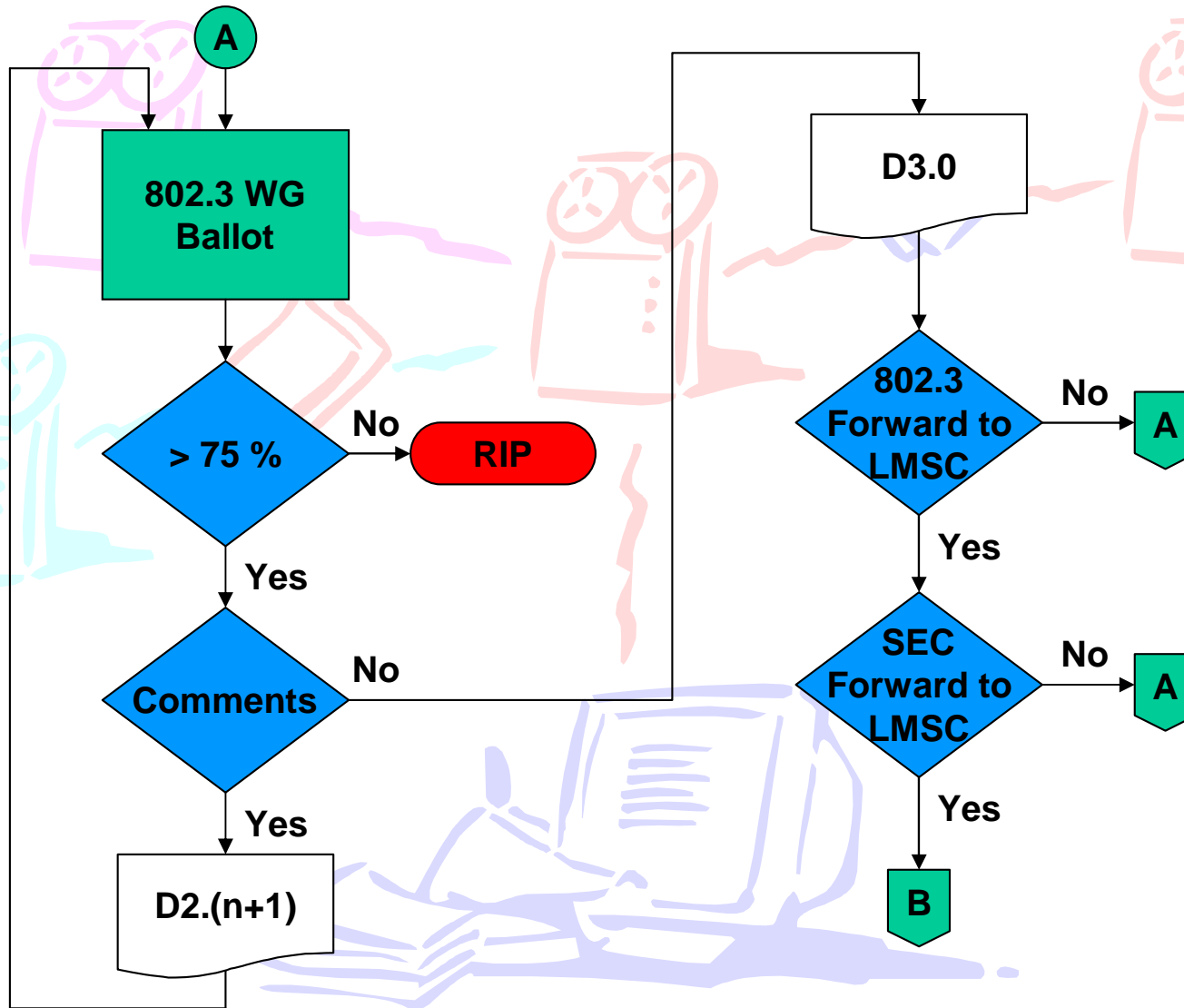


# IEEE Standards Process (cont.)

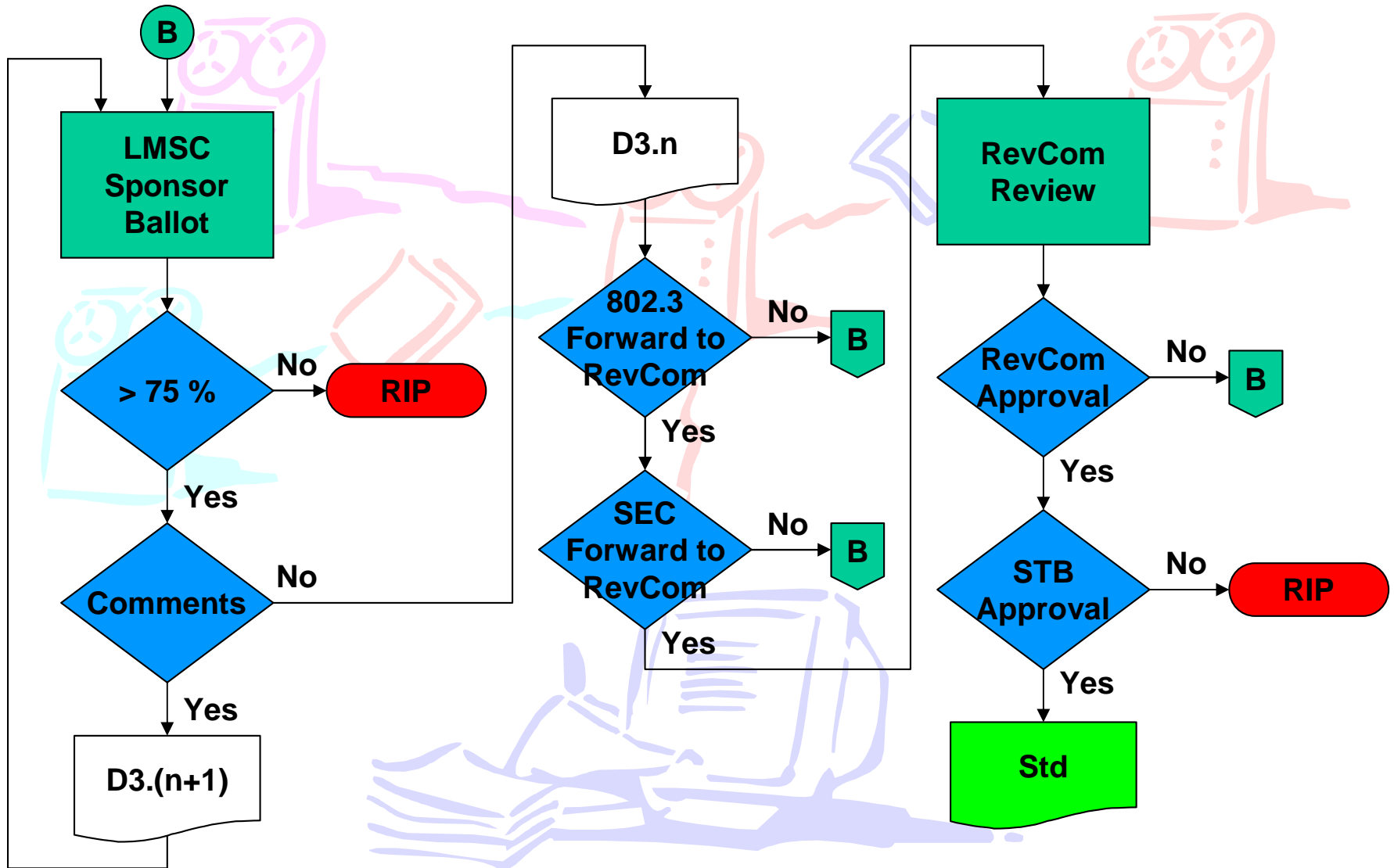




# IEEE Standards Process (cont.)



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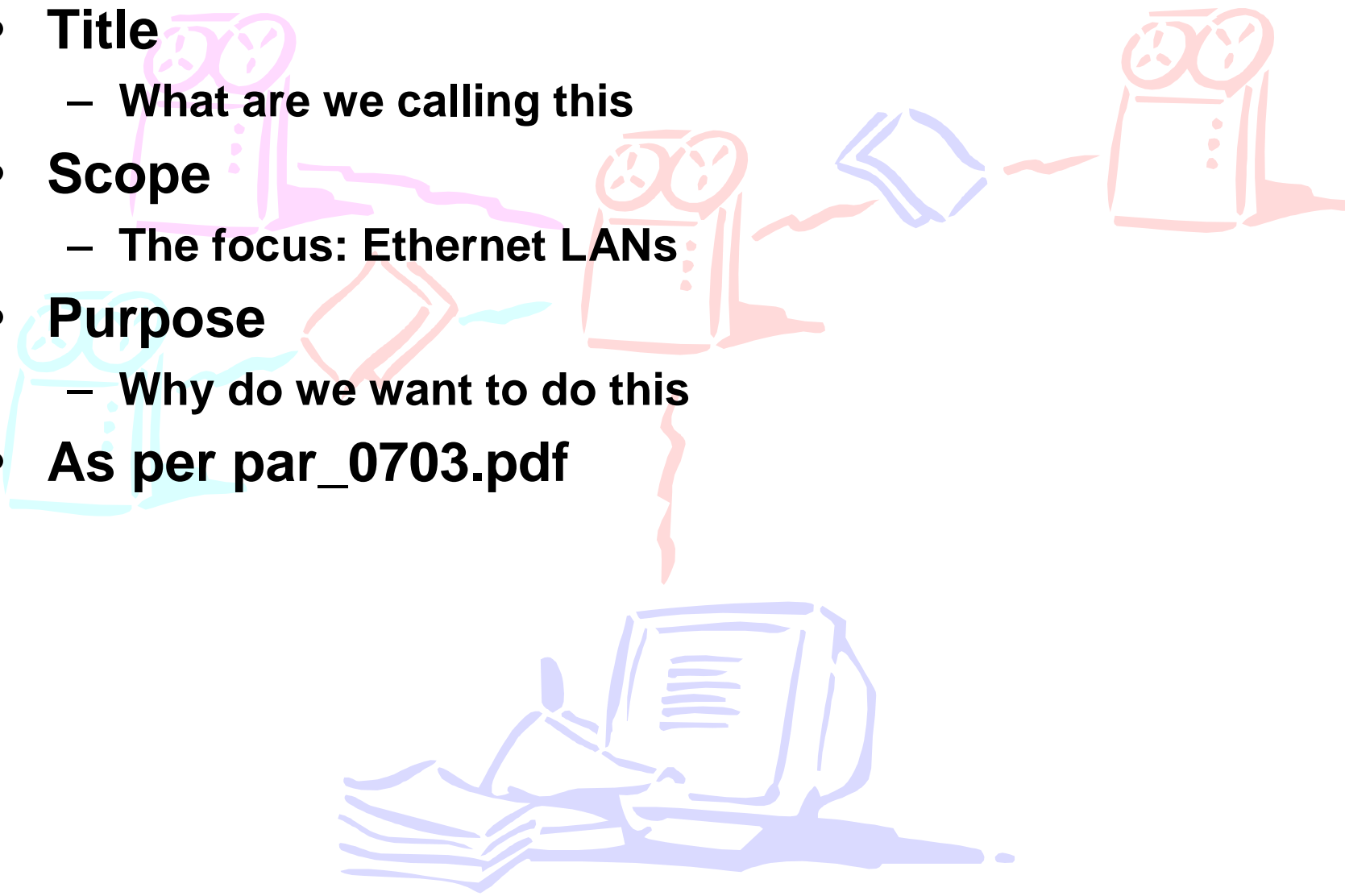


# Study Group

- **Function is to draft a PAR and 5 Criteria**
- **Gain approval at WG 802.3, 802 SEC, IEEE NesCom and IEEE Stds. Board**
- **SG only exists for 6 months**
  - Extensions can be requested... voted on by 802.3, ratified by SEC
- **Development of Objectives help set the goals for the Task Force**
  - Achieved a number of these in Portsmouth
- **Developing consensus**
  - Education helps build consensus
  - Consensus (> 75%) required to move forward

# PAR

- **Title**
  - What are we calling this
- **Scope**
  - The focus: **Ethernet LANs**
- **Purpose**
  - Why do we want to do this
- **As per par\_0703.pdf**



# 5 Criteria

- **Broad Market Potential**
  - Broad set(s) of applications
  - Multiple vendors, multiple users
  - Balanced cost (LAN vs. attached stations)
- **Compatibility with IEEE Std. 802.3**
  - Conformance with CSMA/CD MAC, PLS
  - Conformance with 802.2
  - Conformance with 802 Functional Requirements
- **Distinct Identity**
  - Substantially different from other 802.3 specifications
  - One unique solution for problem
  - Easy for document reader to select relevant spec

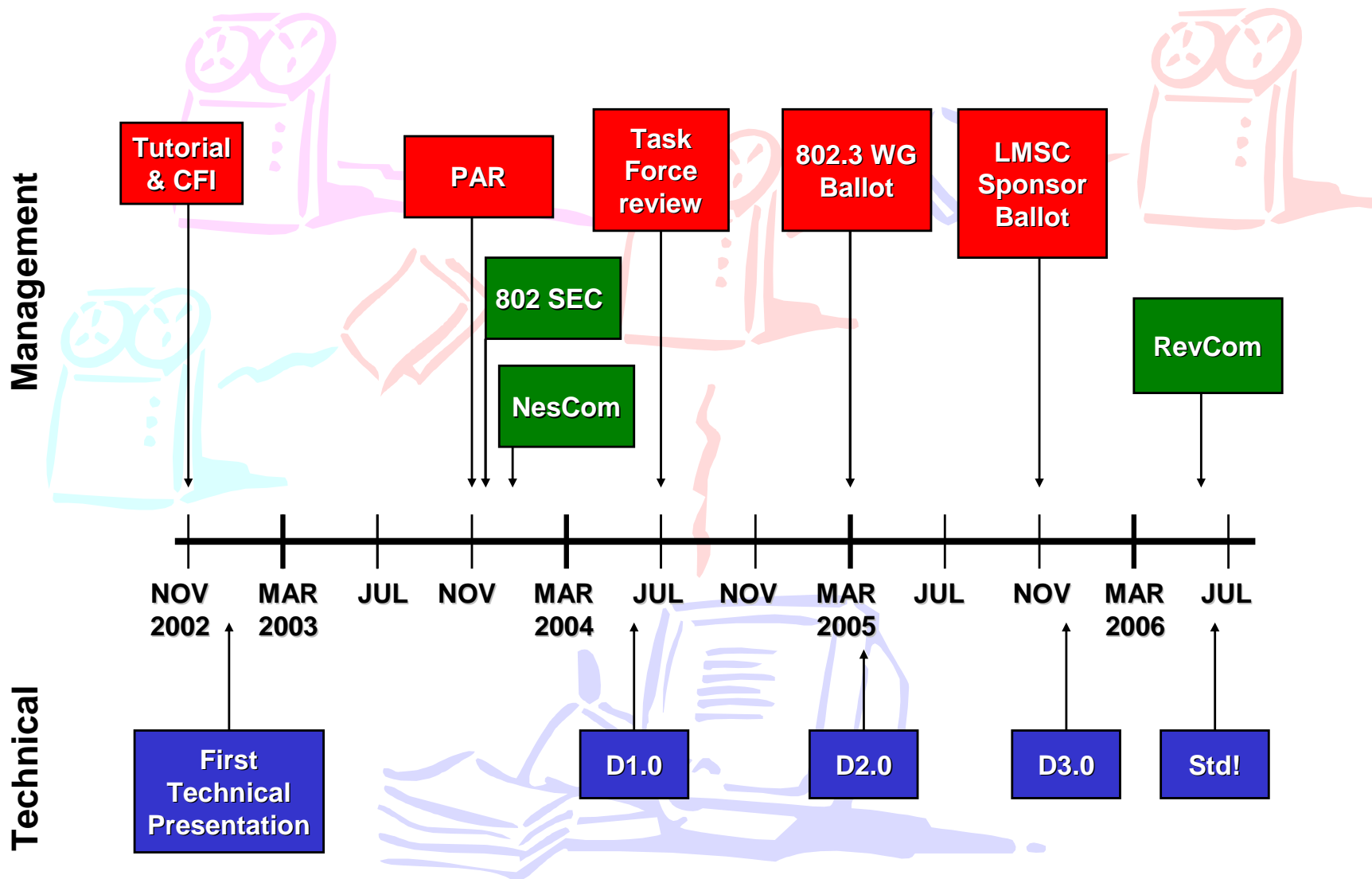
# 5 Criteria (cont.)

- **Technical Feasibility**
  - Demonstrated system feasibility
  - Proven technology, reasonable testing
  - Confidence in reliability
- **Economic Feasibility**
  - Cost factors known, reliable data
  - Reasonable cost for performance
  - Total installation costs considered
- **As per eisler\_2\_0303.pdf with the addition:**
  - The following text be added to the Technical Feasibility:  
“As a proof of technical feasibility, the Task Force will provide a simulation-based working model of the link for all Task Force and Working Group members prior to the draft entering Working Group ballot.”

# Objectives

- **Preserve the 802.3/Ethernet frame format at the MAC Client service interface**
- **Meet 802 Function Requirements, with the possible exception of Hamming Distance**
- **Preserve min. and max. frame size of current 802.3 Std.**
- **Support full duplex operation only**
- **Support star-wired local area networks using point-to-point links and structured cabling topologies**
- **Support a speed of 10.000 Gb/s at the MAC/PLS service interface**
- **Select copper media from ISO/IEC 11801:2002, with any appropriate augmentation to be developed through work of 802.3 in conjunction with SC25/WG3**
- **Support 100 m over 4-connector structured 4-pair, twisted-pair copper cabling**
- **To not support 802.3ah (EFM) OAM unidirectional operation**
- **Support coexistence with 802.3af**
- **Support Clause 28 auto-negotiation**

# 10GBASE-T Timeline





# Liaison Letter & Ad Hoc Reports

- **Liaison letter received from ISO/IEC JTC 1 / SG 25 / WG 3**
  - Urging the use of Class E (CAT6) or better cabling
  - Need to work on formulating a response
- **Liaison letter received from TIA TR42**
  - Response to our liaison letter
- **Cabling Ad Hoc Report**
  - Chris DiMinico, MC Communications



# Presentations

- **AbuGhazaleh; Alien NEXT, IL Effect on Channel Capacity**
- **Bohbot; 10GBASE-T Alien Crosstalk Measurements on Cat.5e**
- **Nordin & Vanderlaan; Alien Crosstalk Mitigation Technique**
- **Dinh; Magnetics for 10GBase-T**
- **Flatman; Installed Horizontal Cabling Length Distribution**
- **Cohen; Proposed Cabling Specifications for 100% 10Gbps Coverage**
- **Cobb; Extending Category 5e Limits**
- **Powell; Impact of Insertion Loss Notch on PAM-10 Transceiver**
- **Powell; Feasibility Study on High Speed Transmission over UTP Cables**
- **Yousefi; Multi Rate PHY**
- **Spencer; Analog Front Ends for Ethernet on Copper**
- **Parhi; Interleaved Trellis Coded Modulation and Decoding**
- **Babanezhad; 10GBASE-T Line Signaling**
- **Aldana; Receiver Based Alien Crosstalk Mitigation**
- **Di Minico; 10GBASE-T Cabling Baseline Proposal**

# Future Meetings

- **September, 2003:**
  - Portonovo, Italy
  - Interim meeting
  - Hosted by Aethra
  - **BOOK YOUR ROOM NOW!**
- **November, 2003:**
  - Albuquerque, NM
  - Plenary meeting
  - Book your room early as space is limited



# Motion Madness



# Adjourn

