



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

**Portonovo, Italy**  
**September 17, 2003**

**Brad Booth, Chair**

---

# Agenda

- **Welcome and Introductions**
- **Approval of the Minutes (July '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!!



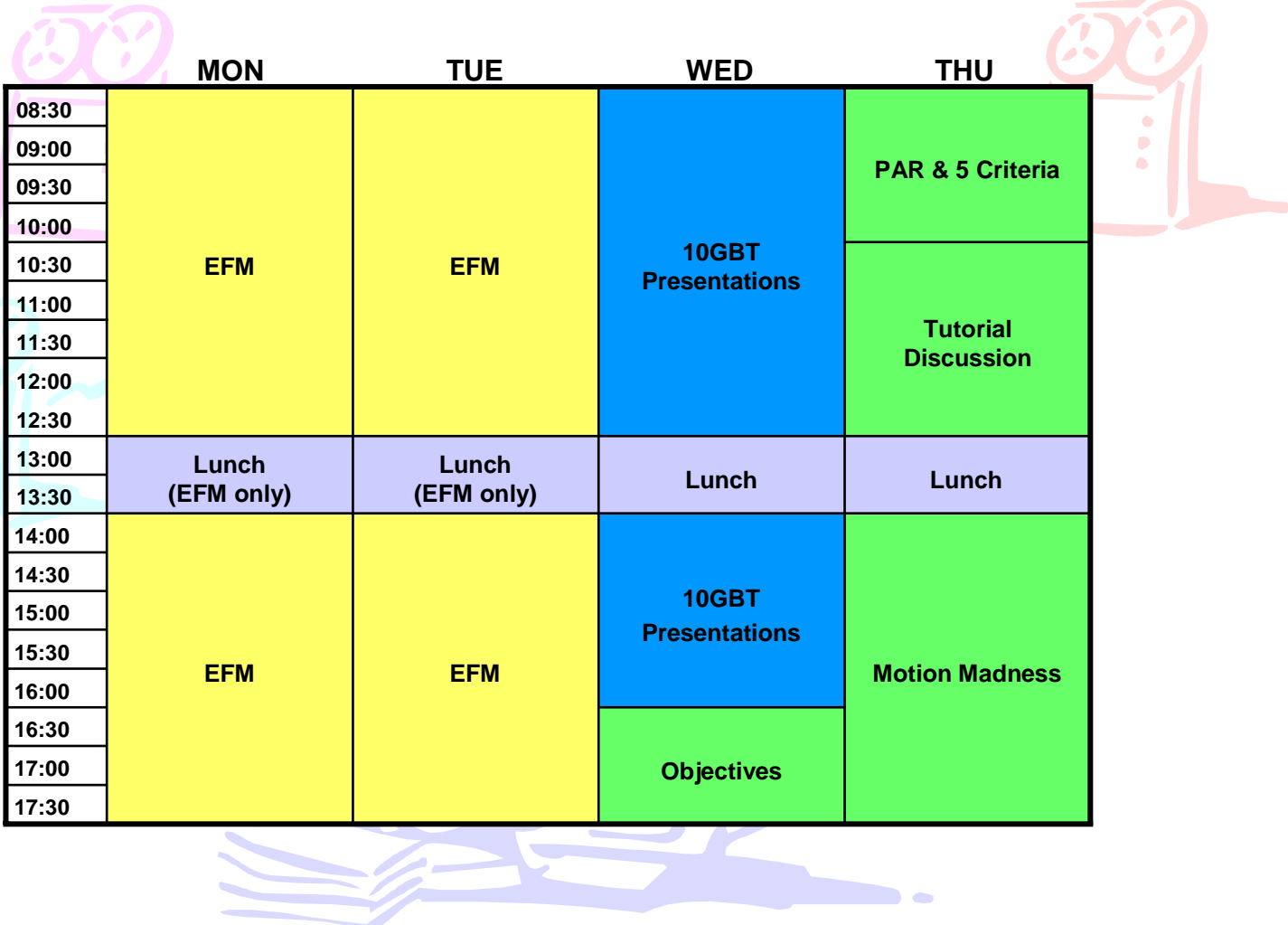
# 10GBASE-T Initial Goal

- **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:**
  - Objectives, 5 Criteria and PAR
  - Suggested amendments to above
- **Refine and enhance:**
  - Objectives
  - 5 Criteria (if required)
  - PAR (if required)
- **Plan for November 2003 Tutorial**

# Meeting Map



	MON	TUE	WED	THU		
08:30	EFM	EFM	10GBT Presentations	PAR & 5 Criteria		
09:00				EFM	10GBT Presentations	Tutorial Discussion
09:30						
10:00						
10:30						
11:00						
11:30						
12:00						
12:30						
13:00						
13:30	EFM	EFM	10GBT Presentations	Motion Madness		
14:00						
14:30						
15:00						
15:30						
16:00						
16:30					Objectives	
17:00						
17:30						

# 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/>*

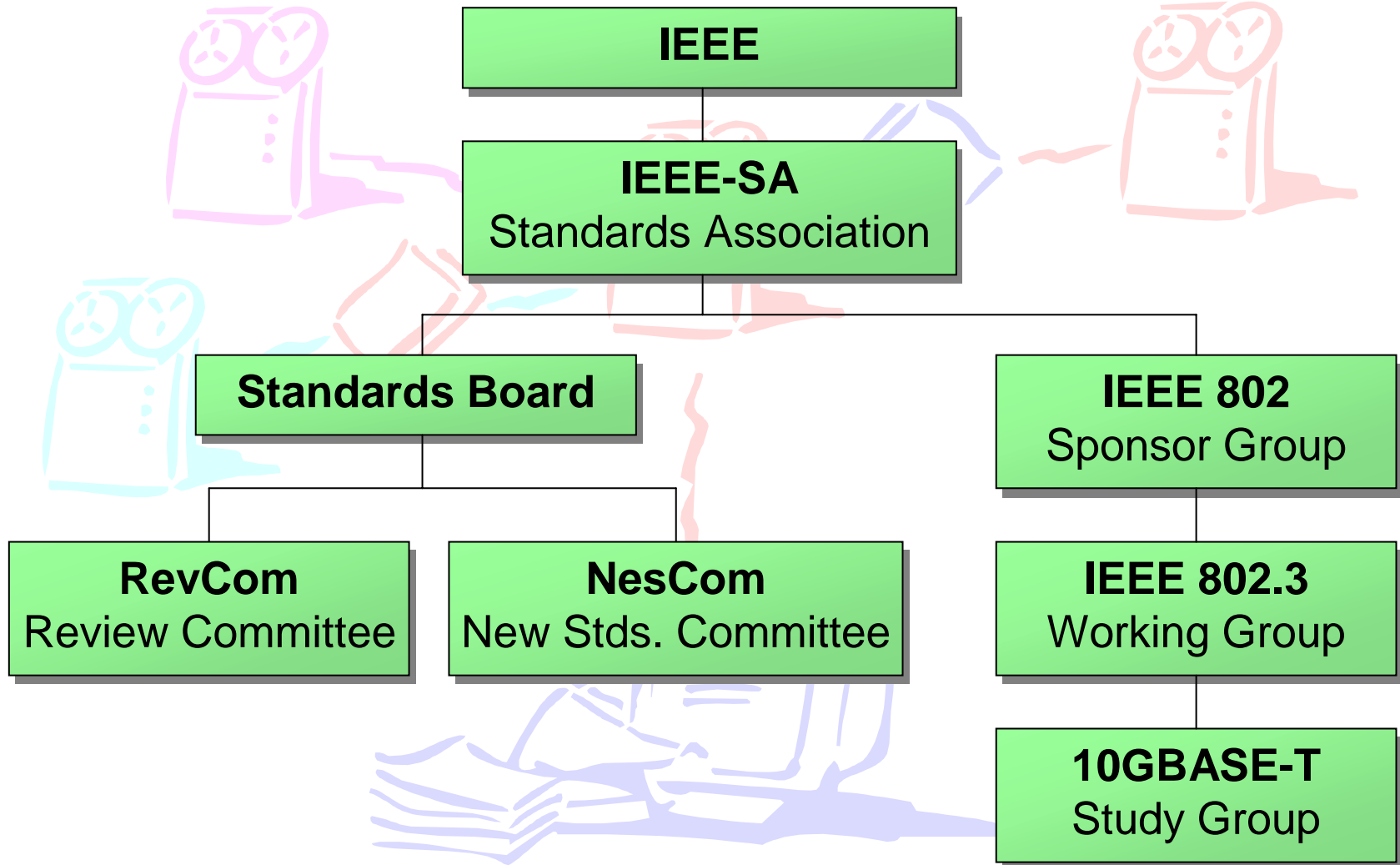


# Ground Rules

- **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

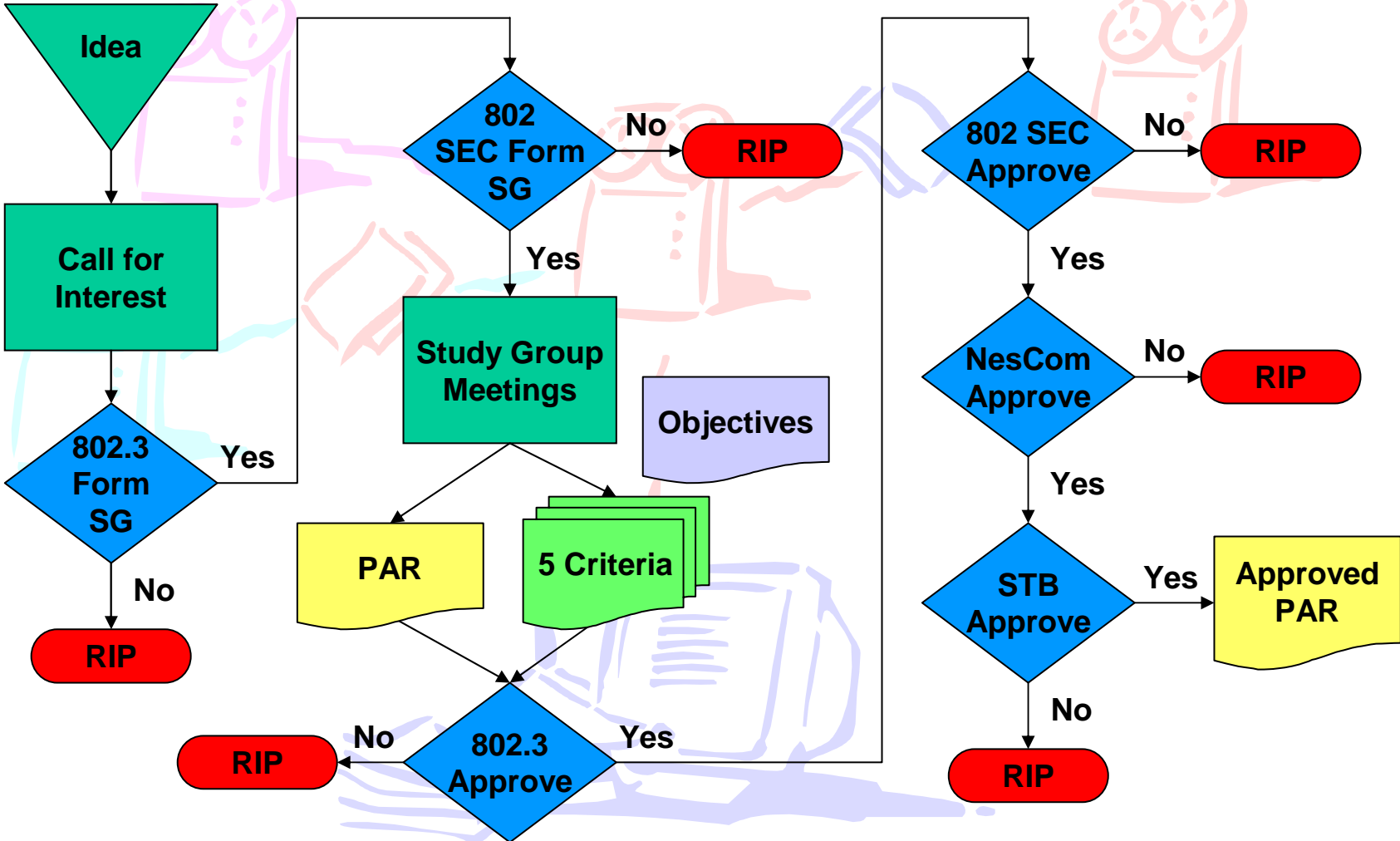
# Inappropriate Topics for IEEE WG Meetings

- 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.

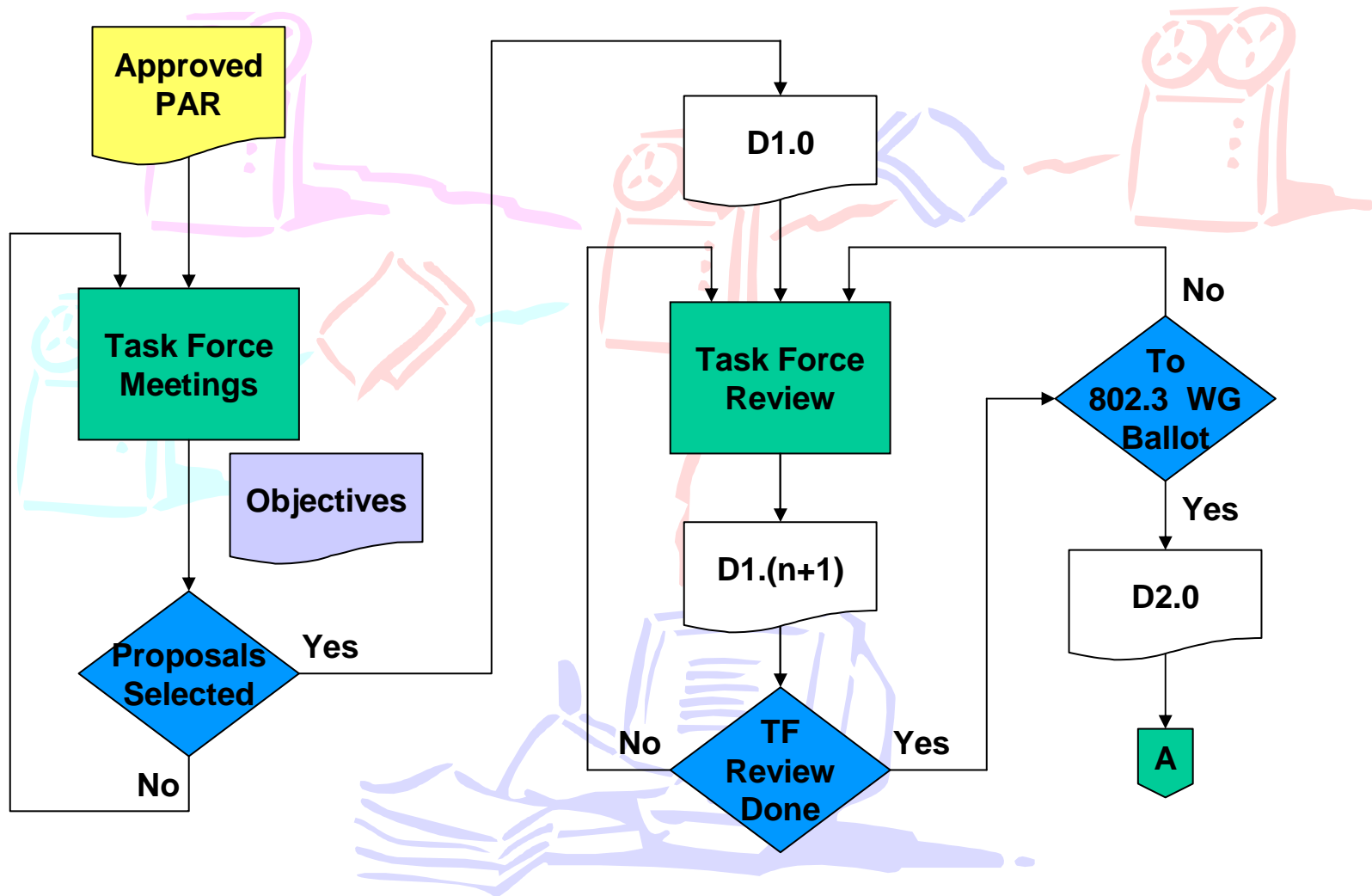
**If you have questions,  
contact the IEEE Patent Committee Administrator  
at [patcom@ieee.org](mailto:patcom@ieee.org)**

Approved by IEEE-SA Standards Board – December 2002

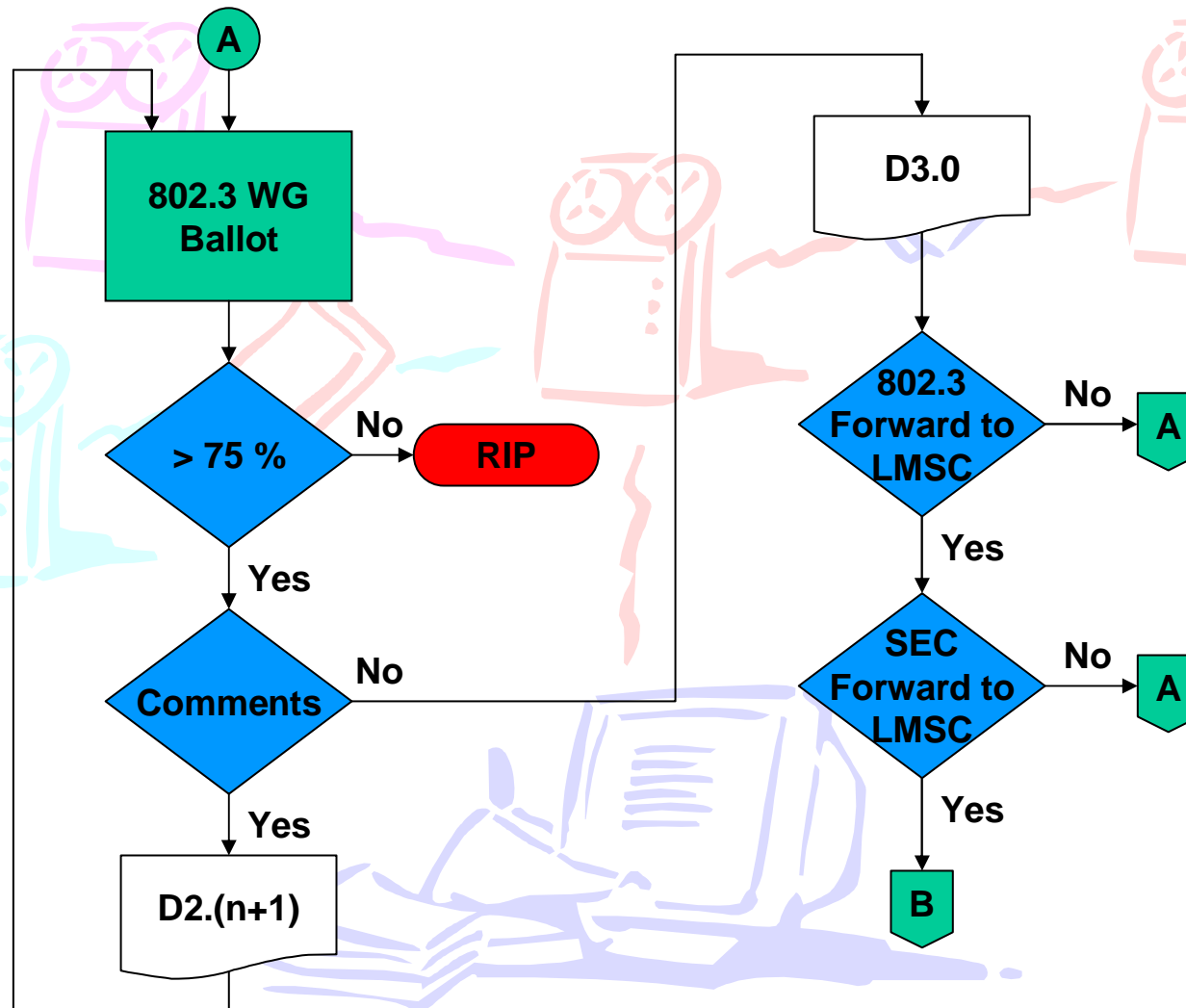
# IEEE Standards Process



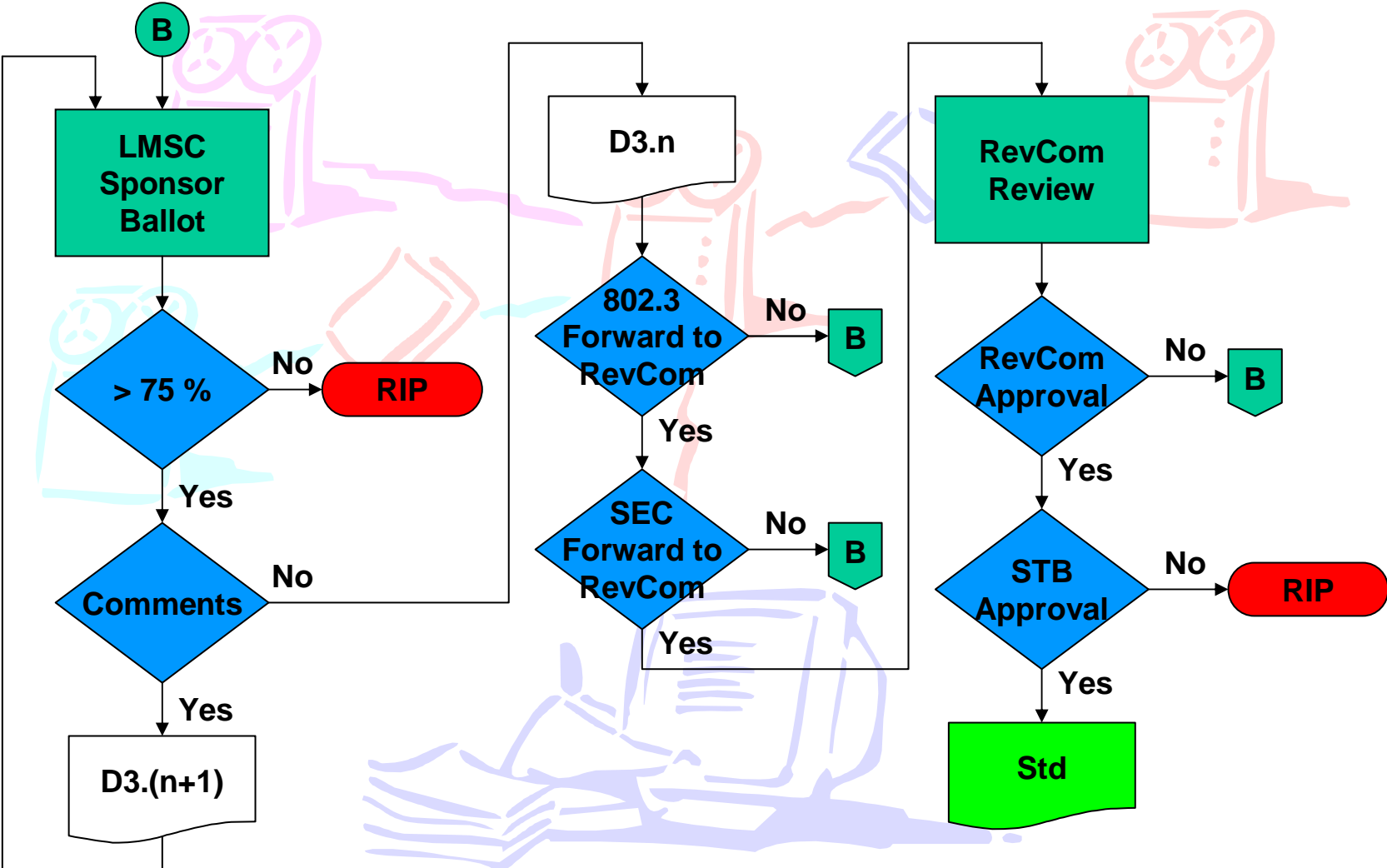
# IEEE Standards Process (cont.)



# IEEE Standards Process (cont.)



# IEEE Standards Process (cont.)





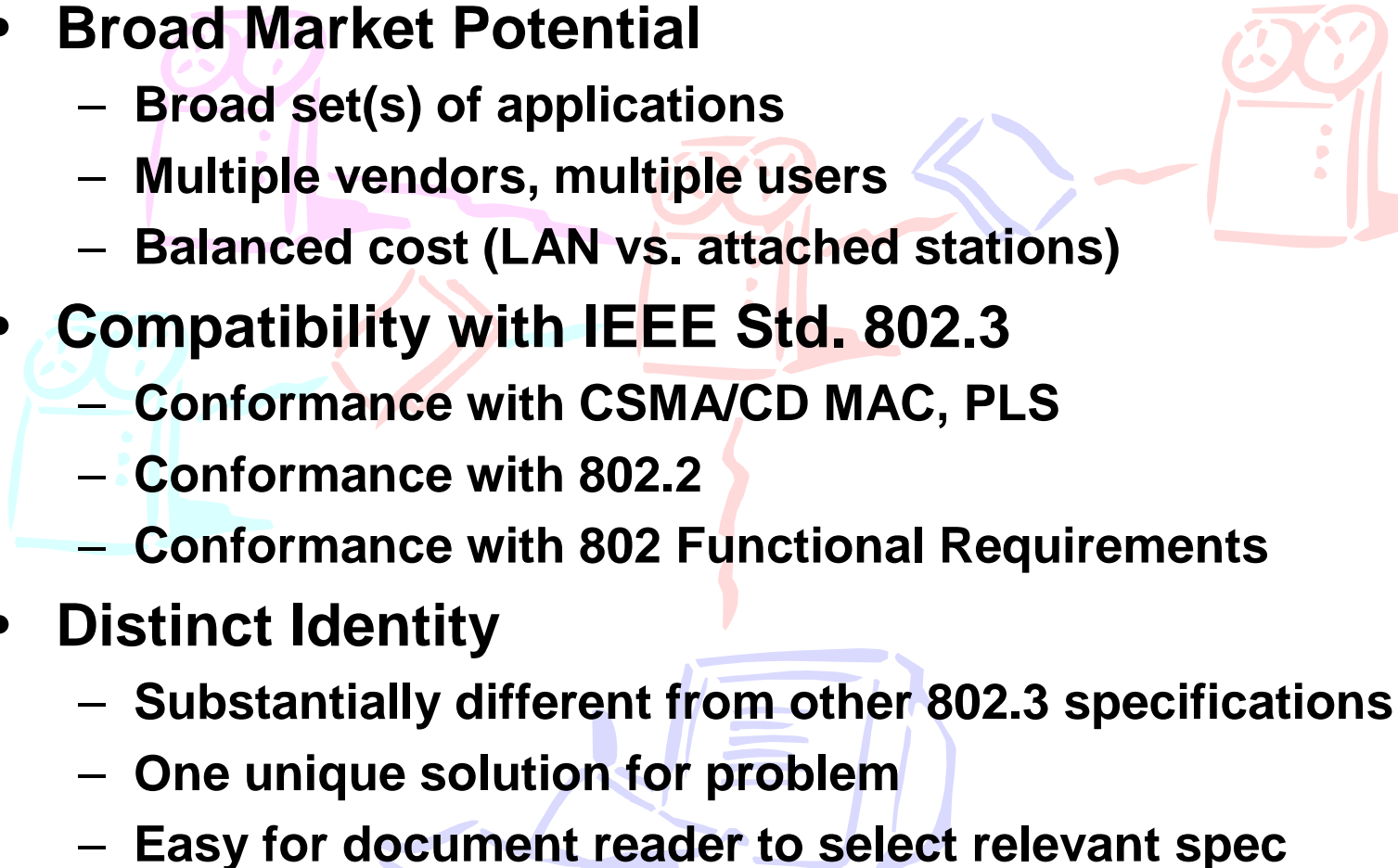
# Study Group

- **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**
- **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\_2\_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.)

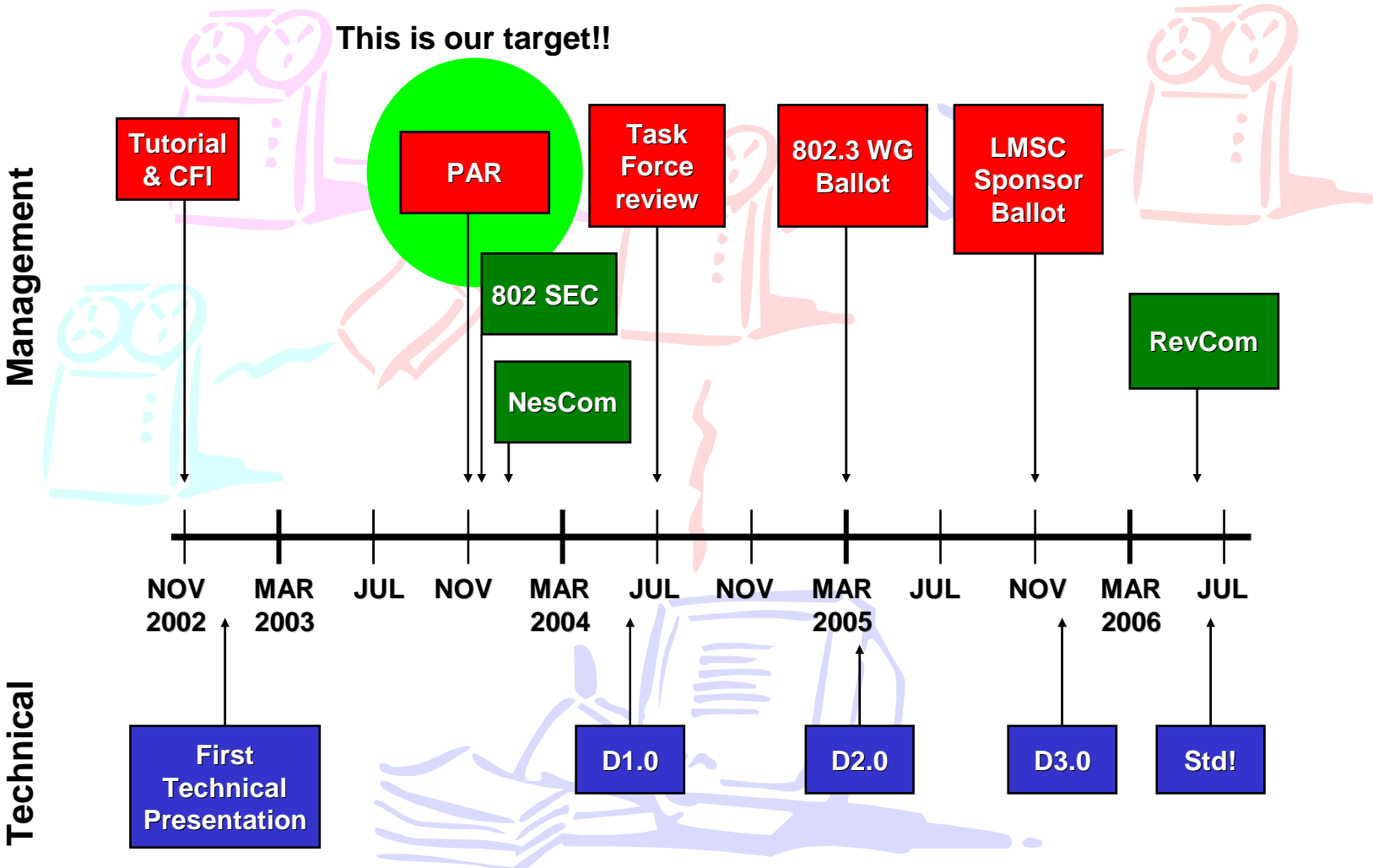
- **Technical Feasibility**
  - Demonstrated system feasibility
  - Proven technology, reasonable testing
  - Confidence in reliability
- **Economic Feasibility**
  - Cost factors known, reliable data
  - Reasonable cost for performance
  - Total installation costs considered
- **As per 5criteria\_2\_0703.pdf**



# Objectives

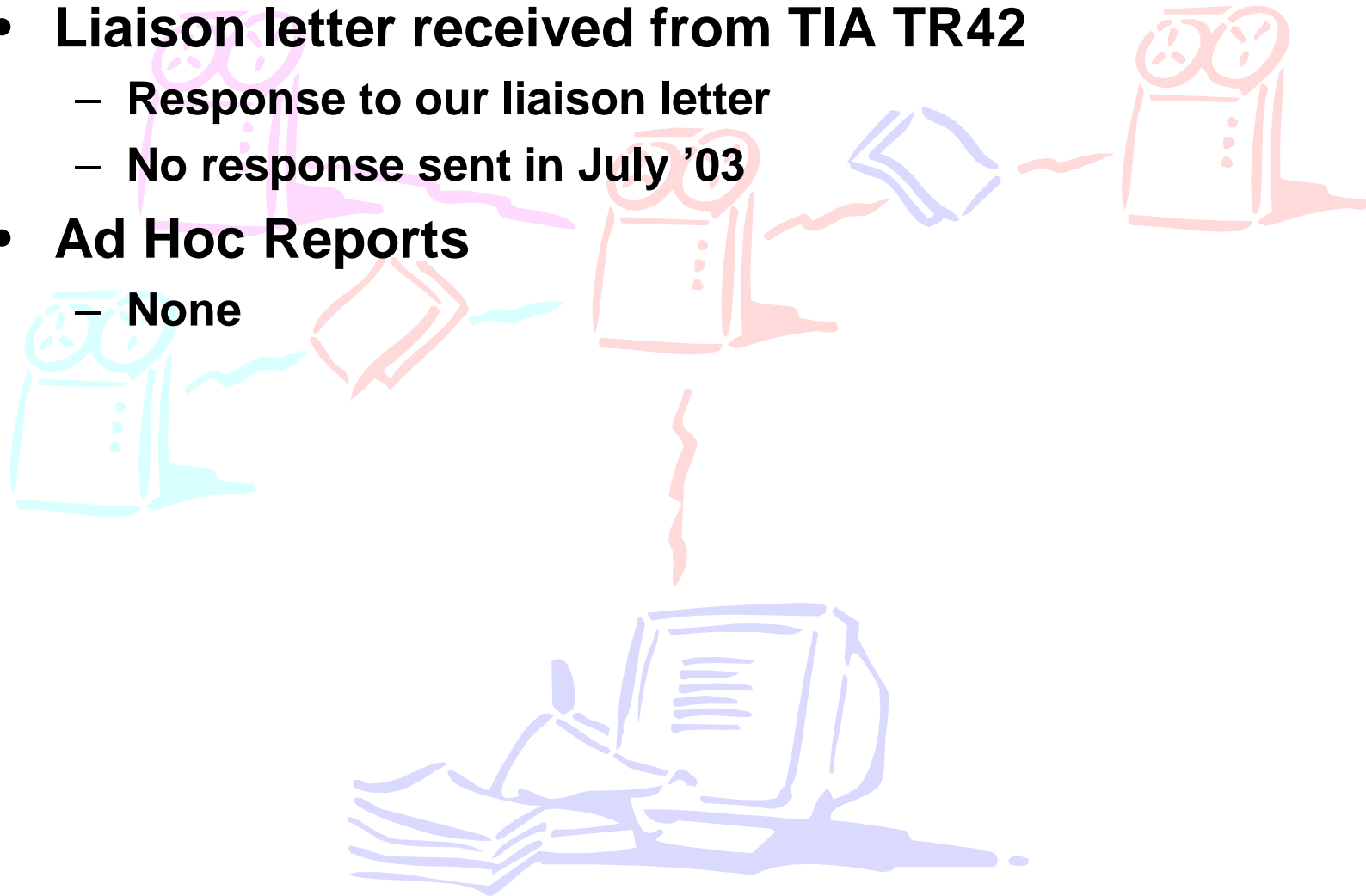
- **Preserve the 802.3/Ethernet frame format at the MAC Client service interface**
- **Meet 802 Function Requirements, with the possible exception of Hamming Distance**
- **Preserve min. and max. frame size of current 802.3 Std.**
- **Support full duplex operation only**
- **Support star-wired local 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 TIA TR42**
  - Response to our liaison letter
  - No response sent in July '03
- **Ad Hoc Reports**
  - None



# Presentations

- **Adriaenssens; Cabling in Internet Data Centers**
- **Adriaenssens; Does Cat5e always have insertion loss margin?**
- **Cobb; Extending Category 5e Limits (UL Report and EMC Data)**
- **Telang; Loop Reach Feasibility: Class D and Class E UTP Cables**
- **Vaden; Cat6 Shielded Channel Performance**
- **Powell; Feasibility Study for 10G Over 100m Cat7 and <100m UTP**
- **Cohen; EMI Considerations for 10GBASE-T**
- **Kasturia; Lower Complexity Architectures for Implementing 10GBT XTalk Cancellers and Equalizers FIRs**
- **Nagahori; Chip Implementation**
- **AbuGhazaleh; 10GBASE-T Market Potential & Technical Feasibility on Installed Cabling by 2005**
- **Di Minico; 10GBASE-T Objectives**



# Future Meetings

- **November 10-13, 2003:**
  - Albuquerque, NM
  - Plenary meeting
  - Hyatt is full, waiting list



- **January 2003**
  - Vancouver, BC
  - Possible interim meeting (need to check logistics)

# Motion Madness



# Adjourn

