10 Gb/s Ethernet on FDDI-grade MM Fiber Study Group

Bruce Tolley

Cisco Systems

Put Cell Phones on Stun!!

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

Agenda

- Welcome and Introductions
- Appoint Recording Secretary
- Goals for this Meeting
- Reflector and Web
- Ground Rules
- IEEE
  - Structure
  - Bylaws and Rules
  - Call for Patents
  - IEEE Standards Process
- Presentations
- Future Meetings
- Motion Madness

Agenda of Presentations

Reflector and Web

- There is a reflector set up
  - To subscribe, use this URL: http://www.ieee802.org/3/10GMMFSG/reflector.html
  - To subscribe via email send this message *stds-802-3-10gmmf <your email address>* to majordomo@majordomo.ieee.org
- 10GMMF Study Group web page URL:
  - http://grouper.ieee.org/groups/802/3/10GMMFSG/index.html

Goals for this Meeting

- To start working on the 5 criteria
- To hear technical presentations
  - Channel issues
  - PHY issues
- To define the problem
- To agree on the easy objectives

What is a SG: The 802.3 Motion

"Move that 802.3 authorize the formation of a Study Group to develop a standards project proposal (PAR and Five Criteria) for 10GBASE- serial optics to reach 300 meters on installed, FDDI-grade MM fiber

    M: Bruce Tolley, Cisco

    S: David Law, 3Com

802.3 Voters: Y: 52   N: 6   A:7

Passes"

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 ➔ Goals for the Task Force, convinces WG that SG knows what it wants to do, FOCUS

- Developing consensus
  - Education helps build consensus
  - Consensus (> 75%) required to move forward

Aims of the Study Group

- ## Create 3 documents
  - PAR
  - Five criteria
  - List of objectives

- ## Objectives can change in TF, PAR and five criteria SHOULD not change

- ## Non Goal of SG:
  - Choice of a solution

Example: Select 10GBASE-T Objectives

- 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 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 Clause 28 auto-negotiation
- Support coexistence with 802.3af
- To not support 802.3ah (EFM) OAM unidirectional operation

Example: Select 10GBASE-T Objectives (cont.)

- Define a single 10 Gb/s PHY that would support links of:
  - At least 100 m on four-pair Class F balanced copper cabling
  - At least 55 m to 100 m on four-pair Class E balanced copper cabling
- Support a BER of 10^{-12} on all supported distances and Classes

PAR

- ## Title
  - What are we calling this
- ## Scope
  - The focus: Ethernet LANs
- ## Purpose
  - Why do we want to do this

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

Patent Policy– Call for Patents

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.

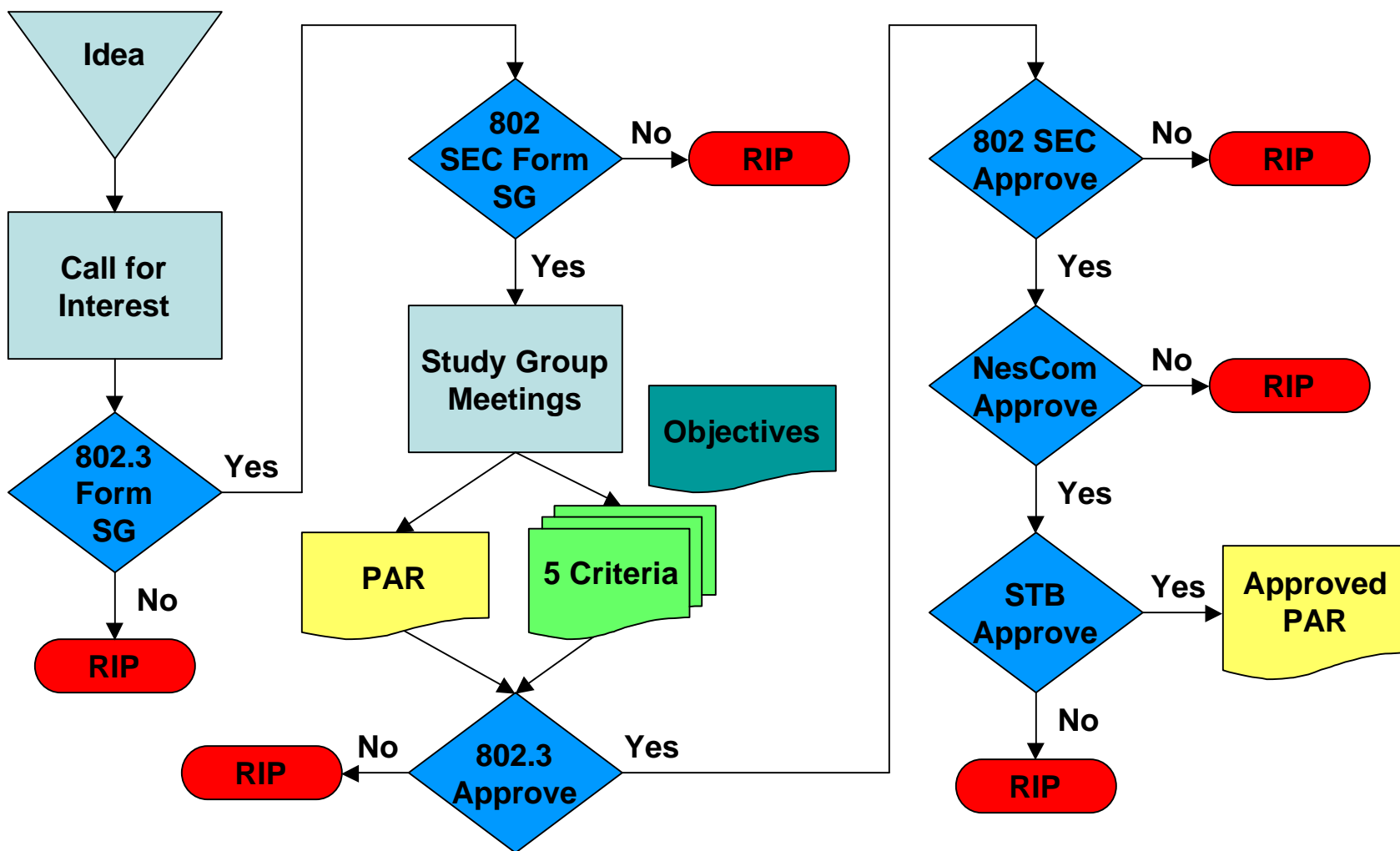Approved by IEEE-SA Standards Board – December 2002

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

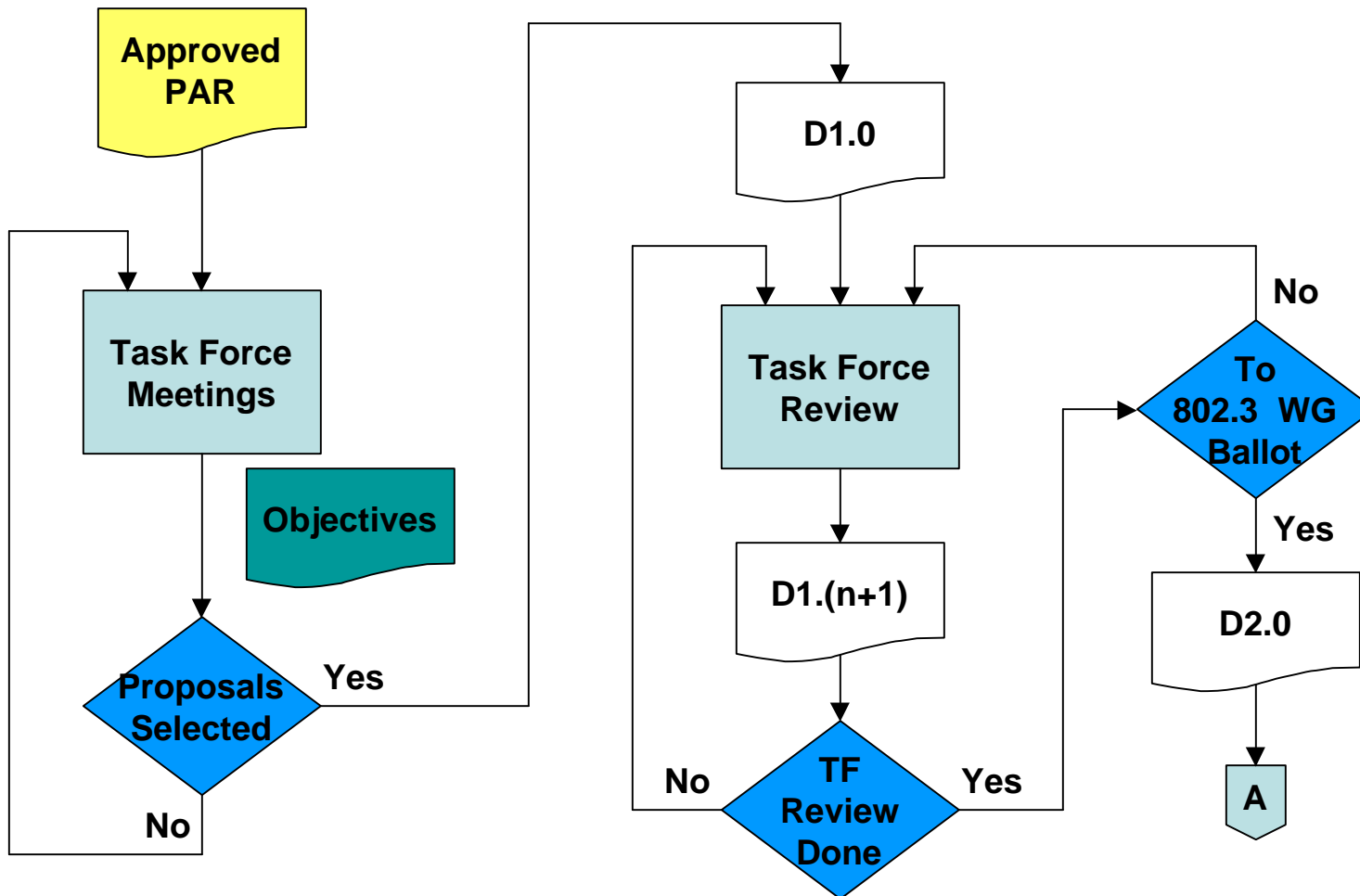- Don't be silent if inappropriate topics are discussed… do formally object.

If you have questions,
contact the IEEE Patent Committee Administrator
at patcom@ieee.org

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Our SG Job: IEEE Standards Process

IEEE Standards Process (cont.)

Future Meetings

- February 2004 Interim??:

- March 2004 Interim??
- March 2004 Plenary:
  - Week of the 15th
  - Orlando, FL
  - Hilton Hotel @ Walt Disney World

Motion Madness

IEEE 802.3 Interim
13-14 Jan. 2003

Motion #: Interim Meeting

- Move that the 10GMMF Study Group request the 802.3 WG to approve 10GMMF Interim meeting.

- M: 2d:

- Procedural (>50%)

- SG Voters: Y: voice   N: A:

Adjourn

Thank You!