IEEE 802.3 Energy Efficient Ethernet Study Group

Opening Plenary Report

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Reflector and Web

- We have a reflector set-up:
- To subscribe to the EEESG reflector, send your request to:
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  with the following in the body of the message (do not include "<>"):
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- For complete instructions on reflector usage, subscription, and unsubscription:
  http://www.ieee802.org/3/eeesg/reflector.html
- EEESG web page URL:
  http://www.ieee802.org/3/eeesg/

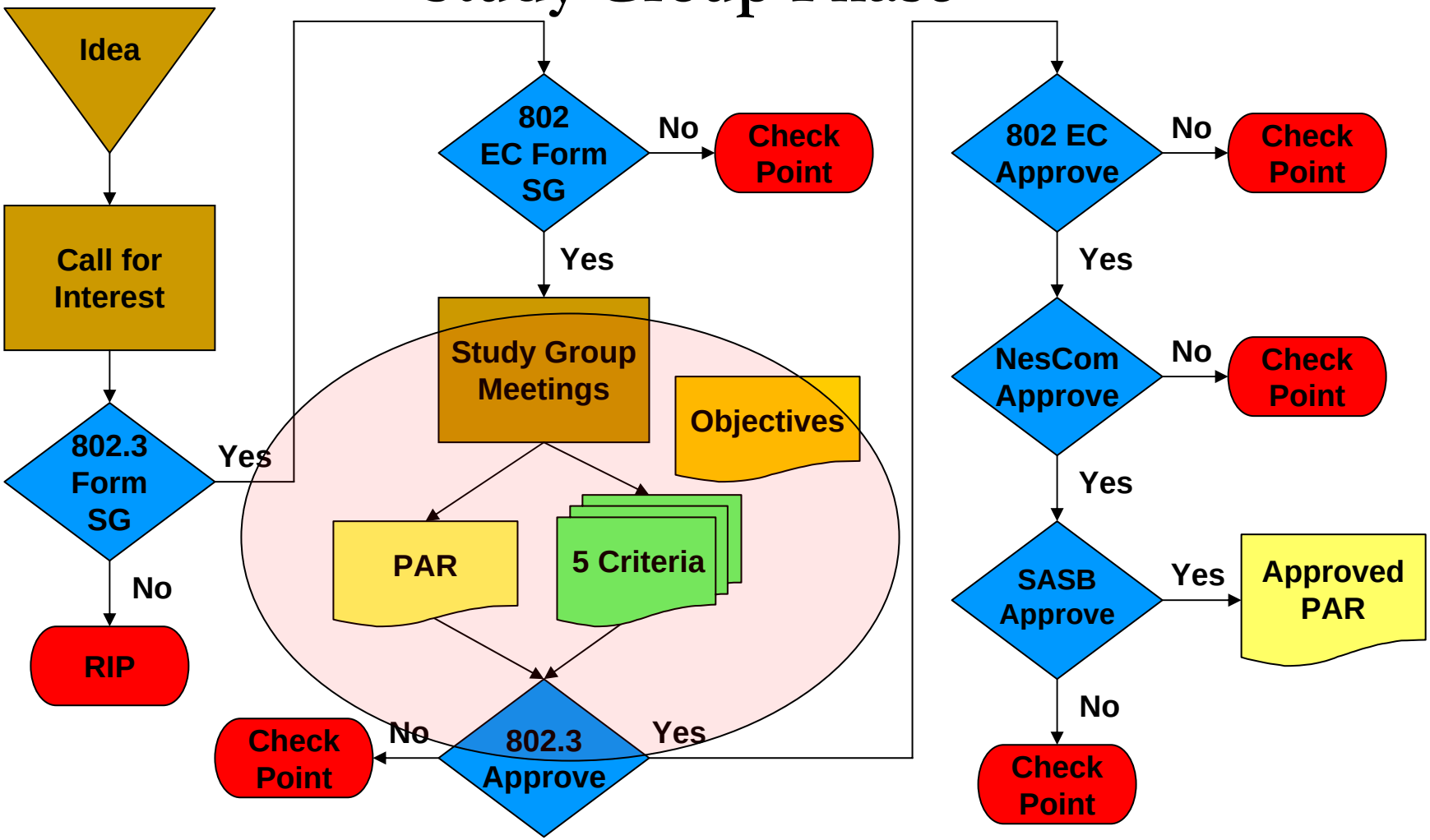
EEESG Charter (as per November '06 Plenary Motion)

Move that the IEEE 802.3 working group request formation of an *Energy Efficient Ethernet* IEEE 802.3 study group to evaluate methods to reduce energy use by reduction of link speed during periods of low link utilization

- Our job is to:
  - Determine the objectives
    - Based on the 5 criteria
  - Produce a Project Authorization Request (PAR)

Overview of IEEE 802.3 Standards Process (1/5)

Study Group Phase



Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

EEE Study Group Report

- We had two interim meetings
- April 17-18, 2007 - Ottawa, ON, Canada
  - Co-located with HSSG
  - Hosted by Nortel
    - (Many thanks to Glenn Parsons and Jim MacFie – as this was a last minute request)
- May 29-31, 2007 – Geneva, Switzerland
  - Hosted by Nortel, again – thank you!
- ~10-12 attendees per day
- 9 presentations total

EEE Study Group Report

- Adopted the PAR
  - http://grouper.ieee.org/groups/802/3/eee_study/Draft%20Par%20to%20EC.pdf
- Adopted 5 criteria
  - http://grouper.ieee.org/groups/802/3/eee_study/5_criteria_adopted-with-votes.pdf
- Adopted and modified some objectives
  - http://grouper.ieee.org/groups/802/3/eee_study/objectives-post-may-interim.pdf

Objectives

Define a mechanism to reduce power consumption during periods of low link utilization for the following PHYs
– 100BASE-TX (Full Duplex)
– 1000BASE-T (Full Duplex)
– 10GBASE-T
– 10GBASE-KR
– 10GBASE-KX4

• Define a protocol to coordinate transitions to or from a lower level of power consumption

• The link status should not change as a result of the transition

• No frames in transit shall be dropped or corrupted during the transition to and from the lower level of power consumption

(All of the above modifications approved 5/29/07 All: 11/1/0, 802.3: 10/1/0)

• The transition time to and from the lower level of power consumption should be transparent to upper layer protocols and applications
(Modified 5/30/07 All: 7/0/1, 802.3: 5/0/1)

Objectives

- Define a 10 megabit PHY with a reduced transmit amplitude requirement such that it shall be fully interoperable with legacy 10BASE-T PHYs over 100 m of Class D (Category 5) or better cabling to enable reduced power implementations. (Approved 5/30/07, All: 5/0/3, 802.3: 4/0/2)

- Any new twisted-pair and/or backplane PHY for EEE shall include legacy compatible auto negotiation (approved 3/15/07: All 4/1/7)

Goals for this Meeting

- Energy Efficient Ethernet Overview – Tutorial
  - Tonight at 6:30 PM in Grand Ballroom A
  - www.ieee802.org/802_tutorials
- Address comments on Objectives, 5 criteria and PAR
  - Refine objectives
  - Hear tutorial on 802.1 Audio Video Bridging (AVB)
  - Hear presentations on EEE impact on upper layers
    - Working towards consensus on transition time value
- Request 802.3 WG Approval of PAR, 5 Criteria and Objectives
- Request extension

Thank You!