IEEE 802.3az
Energy Efficient Ethernet

Closing Plenary Report

San Francisco, CA
July 13, 2009

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- Task Force web page URL:
  http://www.ieee802.org/3/az/

Reflector and Web

- Our latest draft is D1.6

- Task Force *private* web page URL:

http://www.ieee802.org/3/az/private/index.html

Login: 802.3az
Password: xxxxx

Task Force Meeting Phase
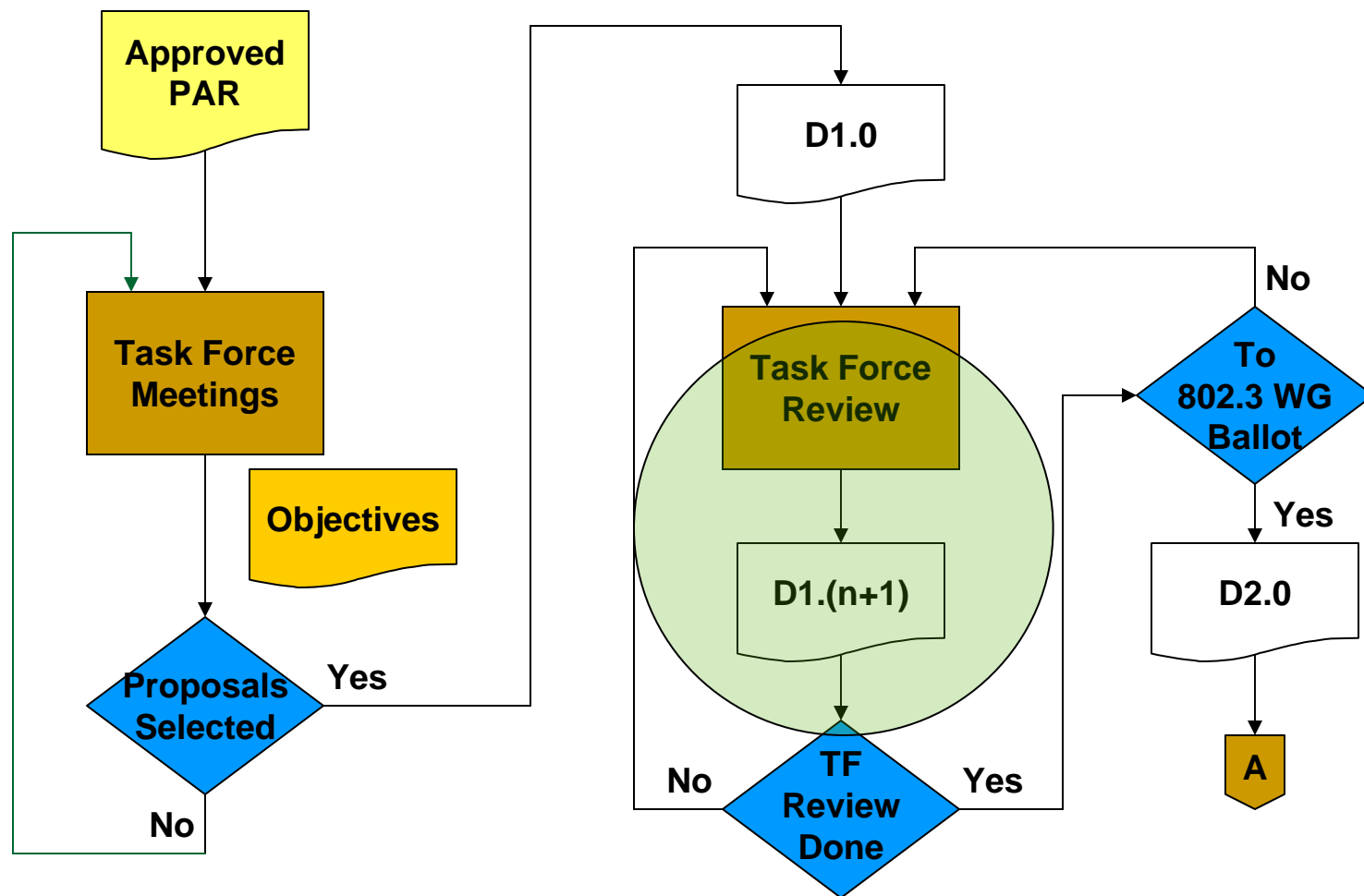
Goals for this Meeting

- Process comments
- Answer questions
- Entertain discussion
- Generate a new draft and present changes to the 802.3 Working Group
- Ask the Working Group to allow 802.3az to go to Working Group Ballot

Motion #2

Direct editors to produce Draft 1.6 of IEEE 802.3az based on Draft 1.5 and all resolved comments as recorded in "8023azD1p5responses.pdf".

Moved by: G. Parnaby

Second by: M. Traeber

Yes:10

No:0

Abstain:0

Technical motion; ≥ 75% required to pass

Motion #3

Approve Draft 2.0, based on Draft 1.6.

Moved by: M. Chadha

Second by: J. Chou

Yes:10

No:0

Abstain:0

Technical motion; ≥ 75% required to pass

Motion #4

Move that the Task Force request that 802.3 circulate IEEE P802.3az Draft 2.0 for a 35 day 802.3 Working Group Ballot and comment, and conduct recirculations as necessary.

Moved by: M. Traeber

Second by: M. Chadha

Yes:10

No:0

Abstain:0

Technical motion; ≥ 75% required to pass

PAR scope, purpose, and need

5.2 Scope: The proposed standard will include a symmetric protocol to facilitate transition to and from lower power consumption in response to changes in network demand. The transition will not cause loss of link as observed by higher layer protocols. The project will also specify PHY enhancements as required for a selected subset of PHY types to improve energy efficiency.

5.3 Is the completion of this document contingent upon the completion of another document? Yes
To meet IEEE-SA requirements for revision of a standard, this project will not go to Sponsor ballot until completion of the current revision of IEEE Std 802.3 (P802.3 and P802.1AX).

tps://spadev.ieee.org/cgi-bin/sadb/par?prttable:2069 (1 of 2)10/10/2007 9:38:22 PM

5.4 Purpose: Most Ethernet links have significant periods of low utilization or no utilization for application data traffic. This project will take advantage of this to provide energy savings in the PHY and enable energy savings in the system which will deliver reduction in total cost of operation.

5.5 Need for the Project: Market pressure and legislative action worldwide is demanding improvements in energy efficiency of networked systems. Energy costs are a major component of operating cost. Energy-Efficient Ethernet (EEE) features will be explicitly or implicitly required by a significant fraction of Ethernet edge connections in the future. Energy consumption and efficiency will become a major factor in the choice of network solutions, especially in data centers. EEE capabilities will be important as Ethernet becomes an enabler for low duty cycle, consumer class applications. EEE capabilities will enable new system level energy management techniques that will save energy beyond the network interface. EEE will address interface changes required to improve energy efficiency.

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
– 1000BASE-KX
– 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

• The transition time to and from the lower level of power consumption should be transparent to upper layer protocols and applications

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.**

- **Any new twisted-pair and/or backplane PHY for EEE shall include legacy compatible auto negotiation**

Motion

Request that 802.3 circulate IEEE P802.3az Draft 2.0 for a 35 day 802.3 Working Group Ballot and comment, and conduct recirculations as necessary, and authorize the IEEE P802.3az Task Force to respond to comments

Moved by: H. Barrass

Second by: D. Dove

Yes:82

No:0

Abstain:1

Technical motion; ≥ 75% required to pass

Next steps

- Ballot announcement will be sent sometime next week

- Comment deadline 35 days after the announcement

- Comment responses at the Septemeber Interim meeting

Future Meetings

- **September 2009 Interim**
  - ❑ Week of September 21-25
  - ❑ Venue TBA
  - ❑ Chicago, Illinois, USA
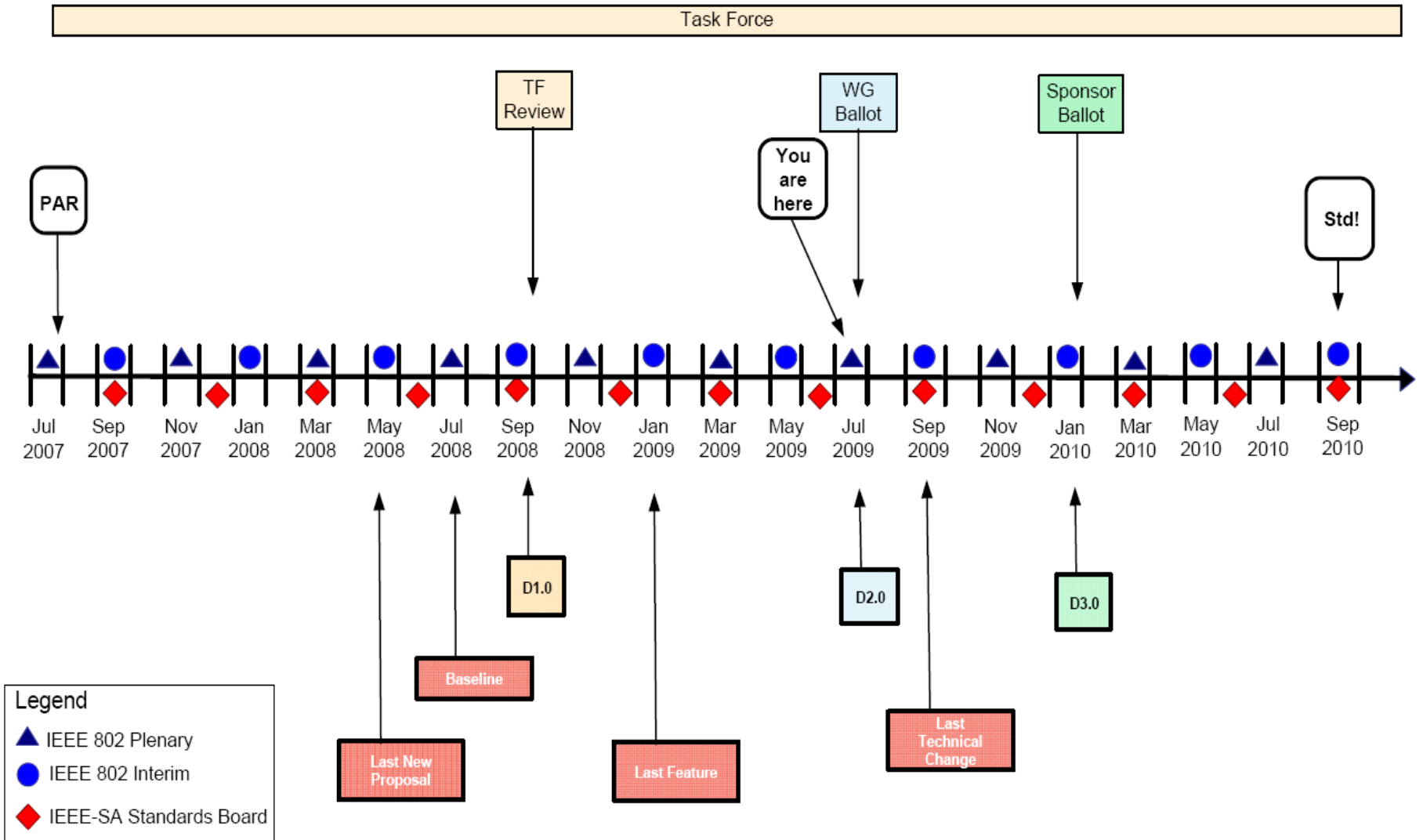
- **November 2009 Plenary**
  - ❑ November 15-20
  - ❑ Hyatt Regency Atlanta
  - ❑ Atlanta, Georgia USA

- Future meeting information at:
  - ❑ http://ieee802.org/3/interims/index.html

802.3az timeline

Thank You!