

IEEE 802.3az

Energy Efficient Ethernet

Closing Plenary Report

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Mike Bennett
mjbennett@ieee.org

IEEE 802.3az EEE Contacts

- Task Force Chair

- Mike Bennett (mjbennett@ieee.org)

- Web Master

- Bruce Nordman (bnordman@lbl.gov)

Reflector and Web

- To subscribe to the 802.3az reflector, send your request to:

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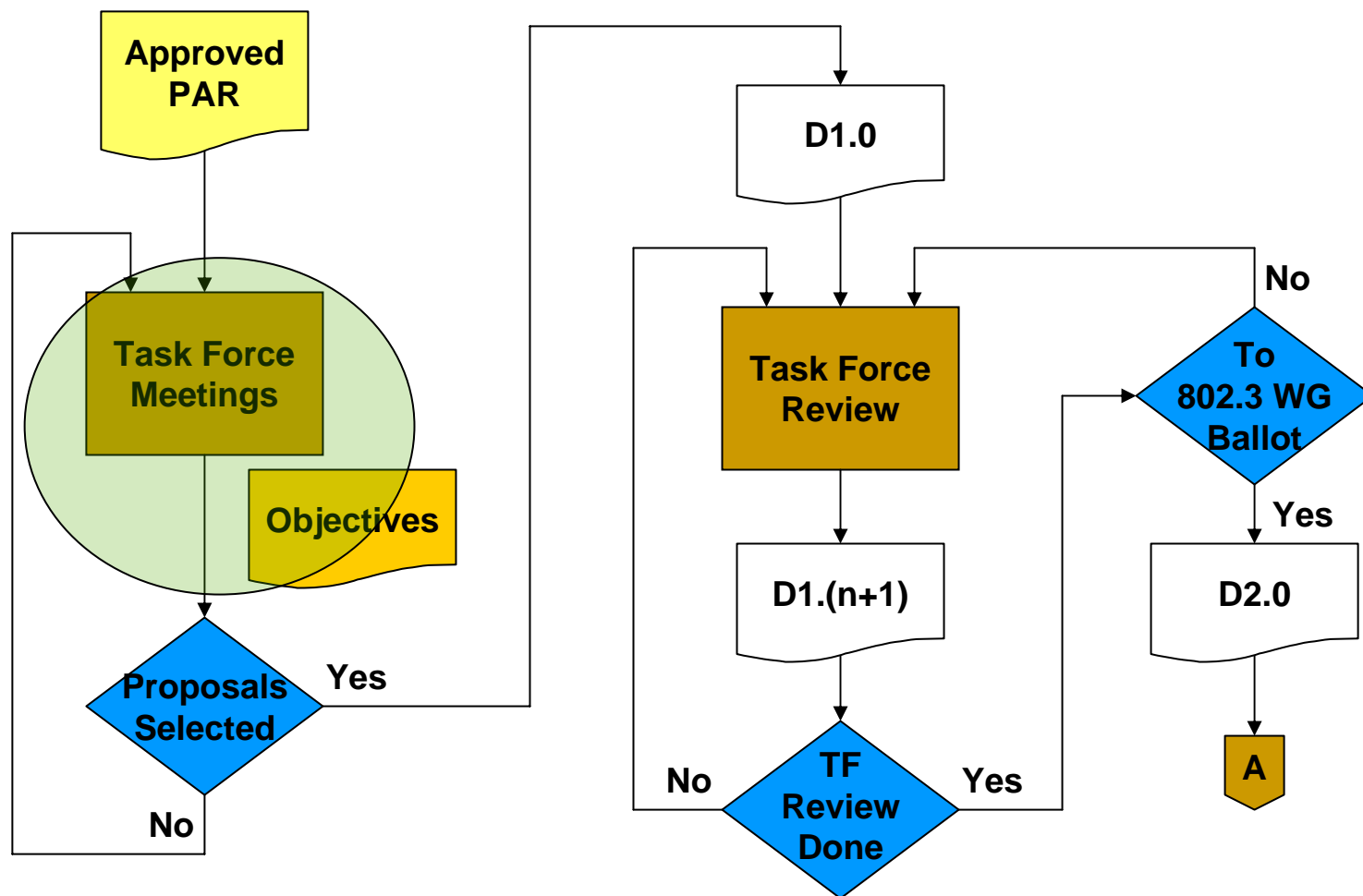
<http://www.ieee802.org/3/az/reflector.html>

- 802.3az web page URL:

<http://www.ieee802.org/3/az/>

Overview of IEEE 802.3 Standards Process (2/5)

Task Force Meeting Phase



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**
- 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**

Goals for this Meeting

- Continue to identify the challenges for this project
 - Document structure
 - Architecture
- Continue hearing proposals
- Lay the ground work for the next meeting

Progress ...

- Peak attendance: 45, average:31
- Heard 15 presentations
- Joint meeting with 802.1 DCB folks
 - Hoped to meet with AVB as well but it didn't work out that way ...
- Adopted two proposals into the baseline
- Adopted a timeline

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■ 15 presentations

■ 2 of these submitted at the meeting

- One of these an update to show alignment with another proposal

- 10GBase-T Active / Low Low-Power Idle Toggling
- Negotiation Proposal for LPI EEE
- Low-Power Idle for 1000bT
- Another View of Low Power Idle / Idle Toggle
- A “Subset PHY” Approach for 10GBASE-KR Energy Efficient Ethernet
- Enhancements to the Low-Power Idle Mode

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■ Presentations - continued

- ❑ Twisted Pair Subset PHY
- ❑ 1000BASE-T Low-Power Idle Update
- ❑ Terminology Proposal for LPI EEE
- ❑ LPI Synchronization Feasibility Questions
- ❑ Technical Open Items for LPI
- ❑ A pathway to Asymmetric EEE GPHY
- ❑ Low-Power Idle based EEE 100Base-TX
- ❑ 10GBase-T Active / Low-Power Idle Toggling with Sense Interval (update/aligned with “Enhancements to LPI”)
- ❑ The European (Commission) COC

802.1-802.3az meeting

■ Met with 802.1 DCB folks

□ Feedback from them includes:

- We asked for traffic patterns for testing and simulations
 - Data centers with the traffic of most interest won't share the data
- They want granularity in the way to control energy savings
- Asked them what is the maximum tolerable latency or range of latencies
 - No easy answers
 - Lower latency the better

802.1-802.3az meeting

■ Met with 802.1 DCB folks

□ Feedback - continued:

- Congestion Notification mainly concerned with 1G/10G links
- Asymmetry not seen as an issue
- Concerned with buffering, milliseconds not preferred

■ Will have a joint plenary meeting in July

□ Present an update of our work

- I think traffic simulations will be important for this meeting

□ Discuss concerns and ways to solve problems

Adopted proposals

■ Motion #1

802.3az Task Force adopt 100BASE-TX Low Power Idle proposal in chou_01_0308.pdf as part of the baseline solution for Energy Efficient Ethernet

Moved by: Dan Dove

Second by: Hugh Barrass

Yes: 15 No:4 Abstain:6

Technical motion; 75% required to pass

Motion Passed 79%

Adopted proposals

■ Motion #2

802.3az Task Force adopt 1000BASE-T Low-Power Idle proposal in healey_01_0308.pdf as part of the baseline solution for Energy Efficient Ethernet.

Moved by: Hugh Barrass

Second by: Robert Hays

Yes: 24 No:7 Abstain:2

Technical motion; 75% required to pass

Motion Passed 77%

Adopted timeline

■ Motion

802.3az Task Force adopt the timeline presented in eee-timeline_0308.pdf

Moved by: Dan Dove

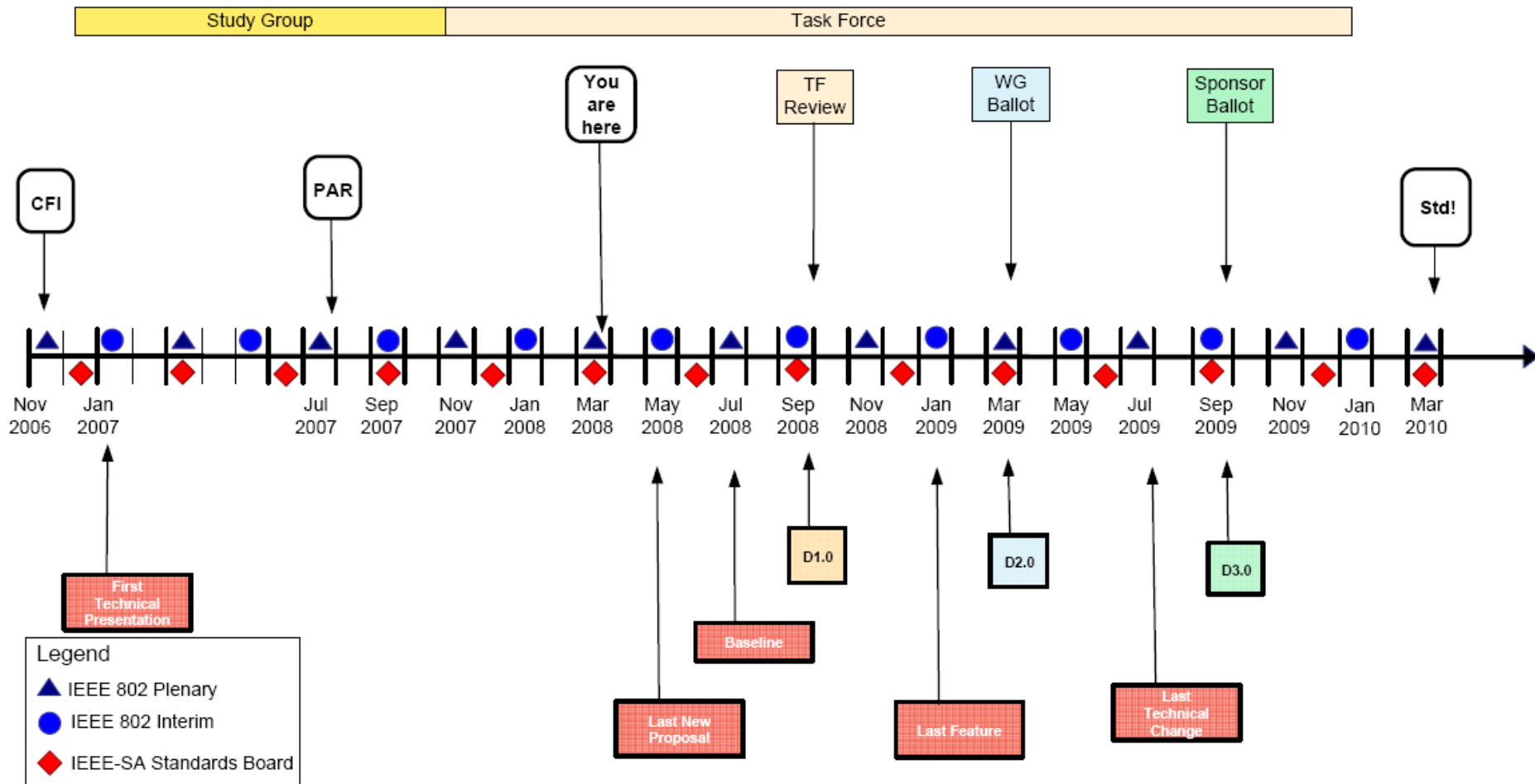
Second by: Wael Diab

Yes: 30 No:0 Abstain:0

Technical motion; 75% required to pass

Motion Passed 100%

Adopted timeline



Future Meetings

- May 2008 Interim
 - Tuesday, May 13 through Thursday, May 15
 - Hilton Munich City Downtown
 - Munich, Germany
 - Watch <http://ieee802.org/3/interims/index.html> for updates

- July 2008 Plenary
 - Week of July 14 – July 17
 - Hyatt Regency Denver
 - Denver, Colorado

- Future meeting information at:
 - <http://www.ieee802.org/meeting/index.html>

Thank You!