



IEEE 802.3az Energy Efficient Ethernet

Closing Plenary Report

Vancouver, BC, Canada
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Reflector and Web

- To subscribe to the EEE TF reflector, send your request to:

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- For complete instructions on reflector usage, subscription, and unsubscription:

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

- Task Force web page URL:

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

Reflector and Web

- Our latest draft is D1.2.1
- Task Force *private* web page URL:

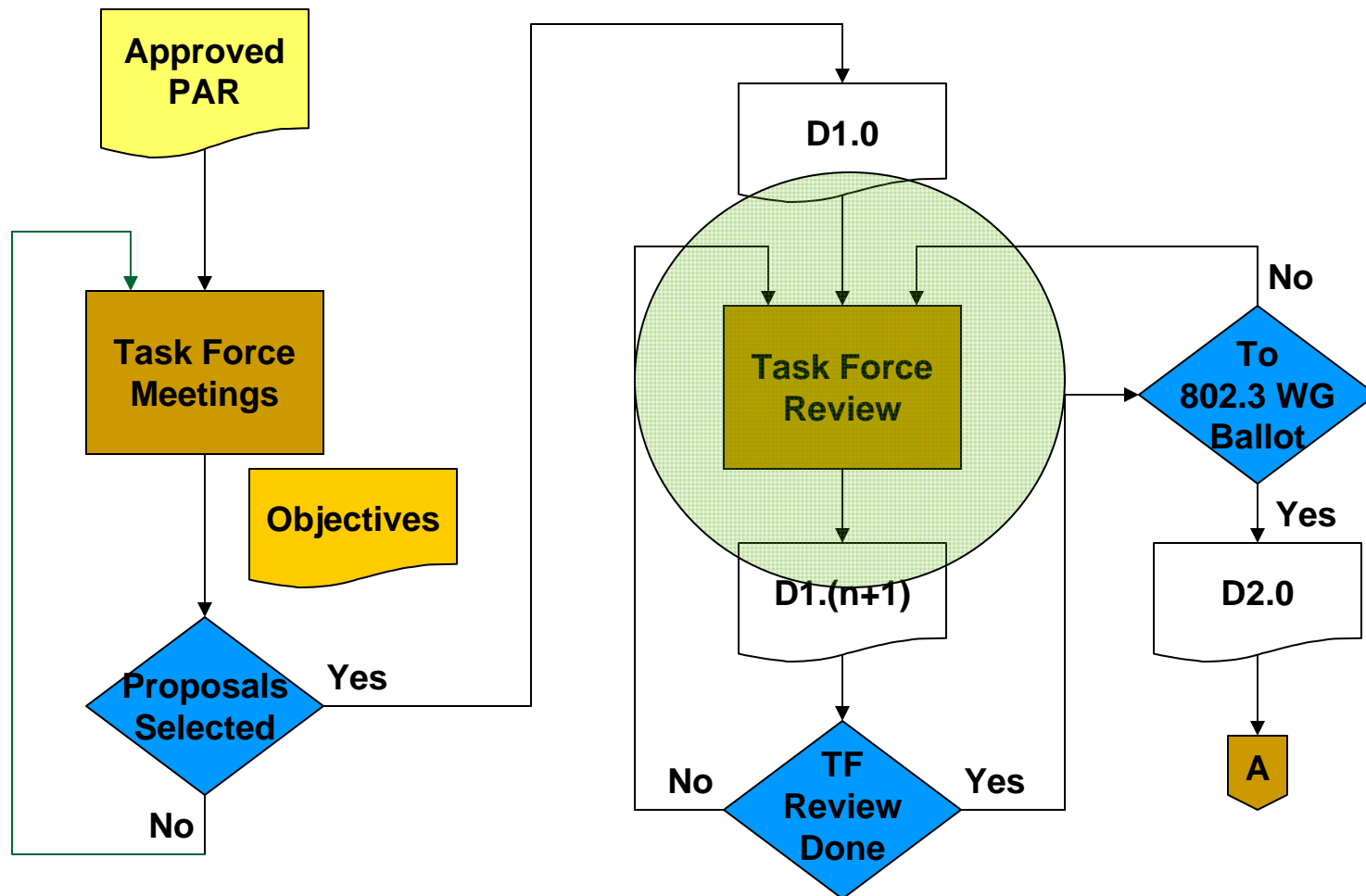
<http://www.ieee802.org/3/az/private/index.html>

Login: 802.3az

Password: xxxxxxxx

Overview of IEEE 802.3 Standards Process (2/5)

Task Force Meeting Phase



802.3az Task Force Report

■ Presentations

- EEE for Real-Time Ethernet
- Wake time shrinkage Ad Hoc report
- L2 Ad Hoc report
- PHY timers for 1000BASE-T Energy Efficient Ethernet
- Recommended values for 1000BASE-KX, 10GBASE-KX4 and 10GBASE-KR

■ Met with 802.3bc and 802.3at

- L2 Ad Hoc will recommend to the TF how to incorporate the containment model

■ Comments on D1.2.1

- 211 comments received
 - 140 technical (1 late comment)
 - 71 editorial
- All resolved

Progress

- Fill in remaining TBDs (AKA “need value”)
 - All “need values” for 1000BASE-KX, 10GBASE-KX4 and 10GBASE-KR filled in
 - 1000BASE-T wake time shrinkage TBDs replaced with values
 - These were still TBD at the Wake time shrinkage Ad Hoc report

- Remaining TBDs identify cross references needed
 - Exception: 802.3 subtype for EEE TLV

Progress

- Identify tests / test modes to verify Low Power Idle signaling
 - Currently no need for test mode
 - Likely to receive update for Interim meeting
- Account for shrinkage of tx and rx wake times for each PHY
 - Adopted definitions
 - $T_{\text{PHY_SHRINK_TX}}$ and $T_{\text{PHY_SHRINK_RX}}$
 - Start of the wake signal for 1000BASE-T
 - Adopted “shrink” values for 100BASE-T and 10GBASE-T
- Review and refine the Layer 2 (LLDP) section of the draft
 - Adopted modifications tx and rx state diagrams in 78.4.4 and editorial changes

Open Items

- Review and resolve architectural inconsistencies
- Evaluate wake time shrinkage for 1000BASE-KX, 10GBASE-KX4 and 10GBASE-KR
 - recommend the minimum, if any, wake time that is specified for the rx system
- Evaluate whether or not LPI has a negative impact on link fault signaling
 - Ad hoc chartered to do this and recommend a solution if needed
 - George Zimmerman will chair the Ad Hoc

Plan

- Editors to produce draft 1.3 for review
 - Draft posted March 30
 - Comment deadline April 17
 - Close all remaining open technical items (TBDs) at May interim
- Editors to produce draft 1.4 for review
 - This draft to be technically complete
 - Draft posted June 6
 - Comment deadline June 22
 - 802.3 WG preview on July 6
- Request to go to WG ballot at July plenary

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- Progress (cont.)

Motion:

The IEEE P802.3az Task Force adopts the wake time related definitions on slide 4, the wake time equations on slides 5 through 9 and the wake time values on slide 11 of law_1_0309.pdf

Definitions from slide 4 should appear in subclause 78.2.3. The values from slide 11 should appear in Table 78-4.

M: David Law

S: George Zimmerman

Technical $\geq 75\%$: Y: 20 N: 0 A: 3

Motion PASSES

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- Progress (cont.)

- Motions

- Move

- IEEE P802.3az Task Force adopt the recommendations from the Layer 2 ad-hoc as captured in ad-hoc report, diab_01_0309.pdf. Editorial team to incorporate changes into D1.3.

- M: W. Diab

- S: A. Vetteth

- Technical $\geq 75\%$: Y: 17 N: 0 A: 4

- Motion passes

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■ Progress (cont.) Motions

802.3az Task Force adopt the following changes to clause 25:

Remove editor's note on Page 57, line 9

Remove editor's note on Page 61, lines 39-45

The editor's note on Page 61, lines 31 to 35 should become a Note (so it doesn't get deleted on publication).

Moved by: S. Kasturia

Second by: H. Barrass

Technical motion; $\geq 75\%$ required to pass Y:14 N:0 A: 2

Motion Passes

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■ Motion

802.3az Task Force adopt values as shown in slides 1 through 3 in pillai_02_0309.pdf.

Moved by: V. Pillai

Second by: D. Koenen

Technical motion; $\geq 75\%$ required to pass Y:11 N:0 A: 2

Motion Passes

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■ Motion

The IEEE P802.3az Task Force adopts the recommendations in healey_03_0309.pdf slides 7 and 8.

Moved by: A. Healey

Second by: M. Chadha

Technical motion; $\geq 75\%$ required to pass Y:12 N:0 A: 1

Motion Passes

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■ Progress (cont.)

□ Motion

Grant the editors license to resolve all of the remaining unresolved editorial comments.

P: Hugh Barrass S: Brian Dietz

P: S: 0 A: 0

Technical $\geq 75\%$

Motion passes

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■ Progress (cont.)

Motion

Move that draft 1.2.1 plus the resolution of comments recorded in 8023azd121.pdf and motions on draft 1.2.1 be used as the basis for generation of draft 1.3 of IEEE 802.3az

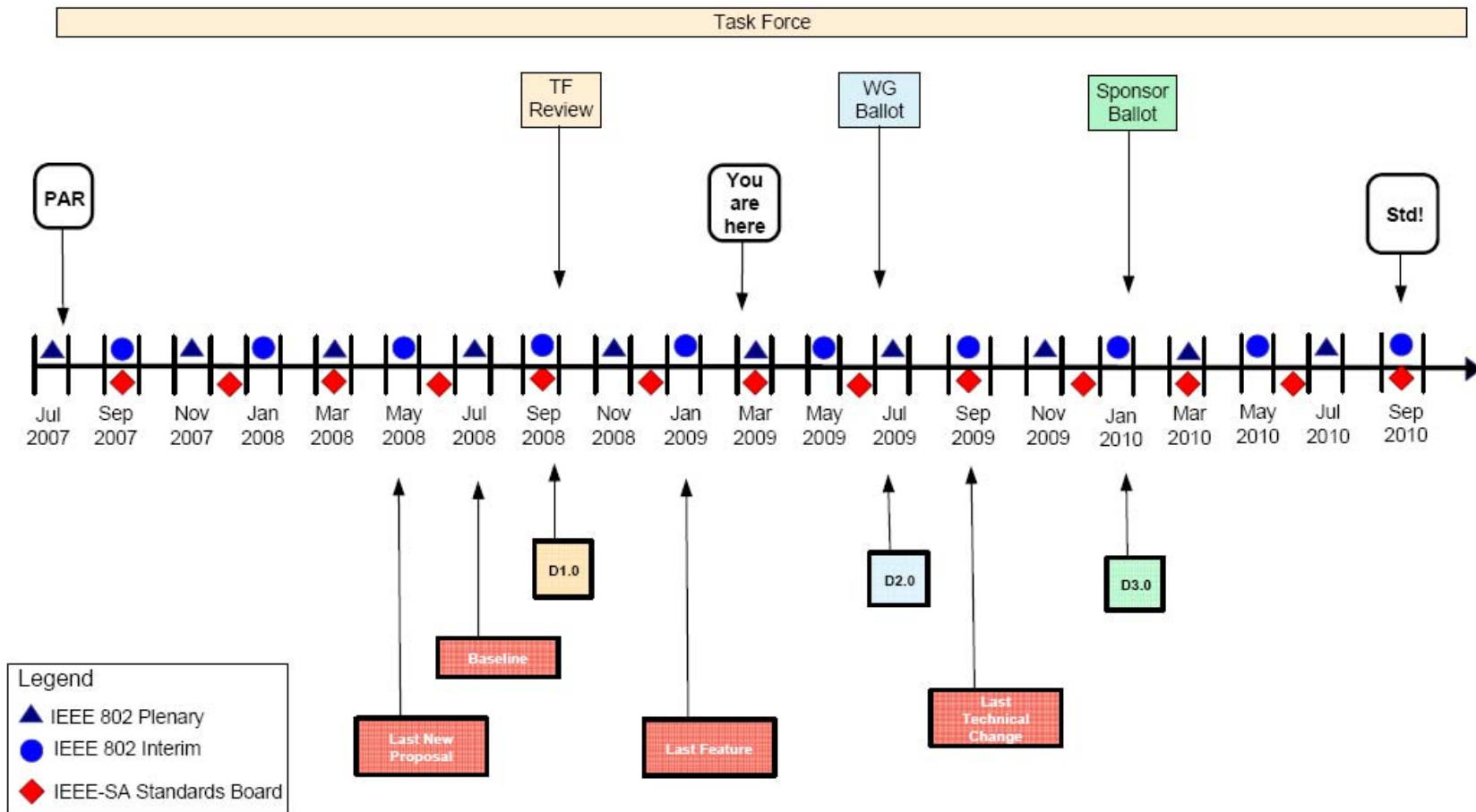
Moved by: H. Barrass

Second by: B. Dietz

Technical $\geq 75\%$ Y: 11 N: 0 A: 0

Motion passes

802.3az timeline



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 (added in July 2008)
- 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**

Future Meetings

- May (Late April) 2009 Interim
 - Wednesday, April 29 to Friday, May 1
 - Venue TBA
 - TBA
- July 2009 Plenary
 - July 12 – 17
 - Hyatt Regency San Francisco at Embarcadero Center
 - San Francisco, California
- Future meeting information at:
 - <http://ieee802.org/3/interims/index.html>



Thank You!

