IEEE 802.3az
Energy Efficient Ethernet

Opening Plenary Report

Vancouver, BC, Canada
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Reflector and Web

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

  ListServ@ieee.org

  with the following in the body of the message (do not include "<>"):

  subscribe stds-802-3-eee <yourfirstname> <yourlastname>
  end

- Send reflector messages to:

  stds-802-3-eee@listserv.ieee.org

- 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

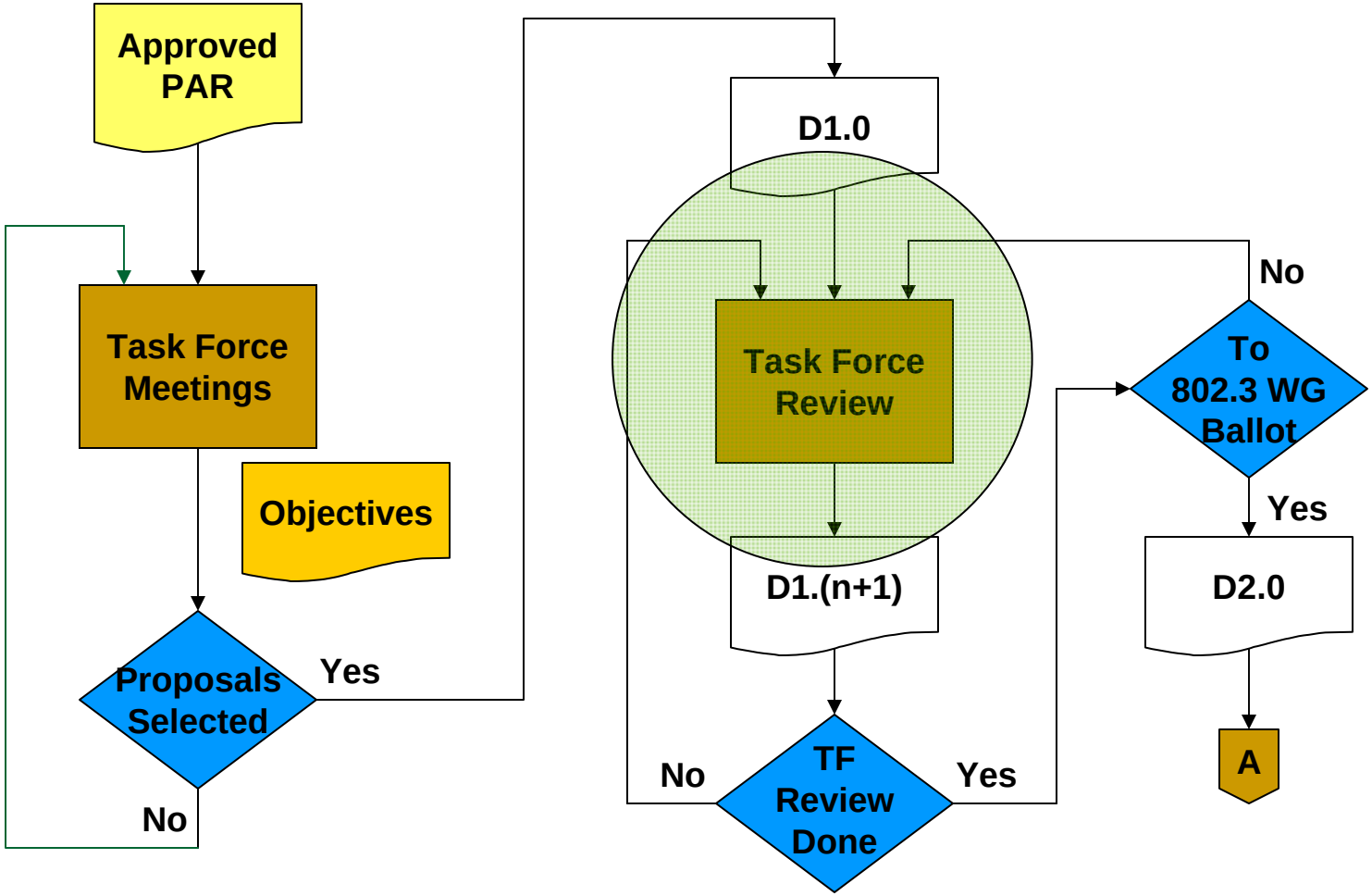
- Task Force *private* web page URL:

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

Login: 802.3az

Password: xxxxx

Overview of IEEE 802.3 Standards Process (2/5)
Task Force Meeting Phase



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- Interim meeting
- January 13-15, 2009 – New Orleans, LA
  - Hosted by AMCC
    - Thanks!
    - Attendance: ~15 people (down by approx 25%)
- Presentations
  - Use of LLDP
    - Added material as a baseline
  - Additions to Clause 49 (10GBASE-R) state diagrams

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- Presentations (cont)
  - Reviews of corner cases found in 100BASE-T and 1000BASE-T
  - Backplane
    - Backplane was reorganized by moving some material from the backplane Clauses (70, 71, 72) to the 1000BASE-X (36), 10GBASE-T (48) and 10GBASE-R (49) clauses
  - AVB Power Management
    - Clarification of terminology, possible interaction issues, how powering AV subsystem devices should be handled, next steps.

- Comments on D1.1
  - 224 comments received
    - 139 technical
    - 85 editorial
  - All resolved

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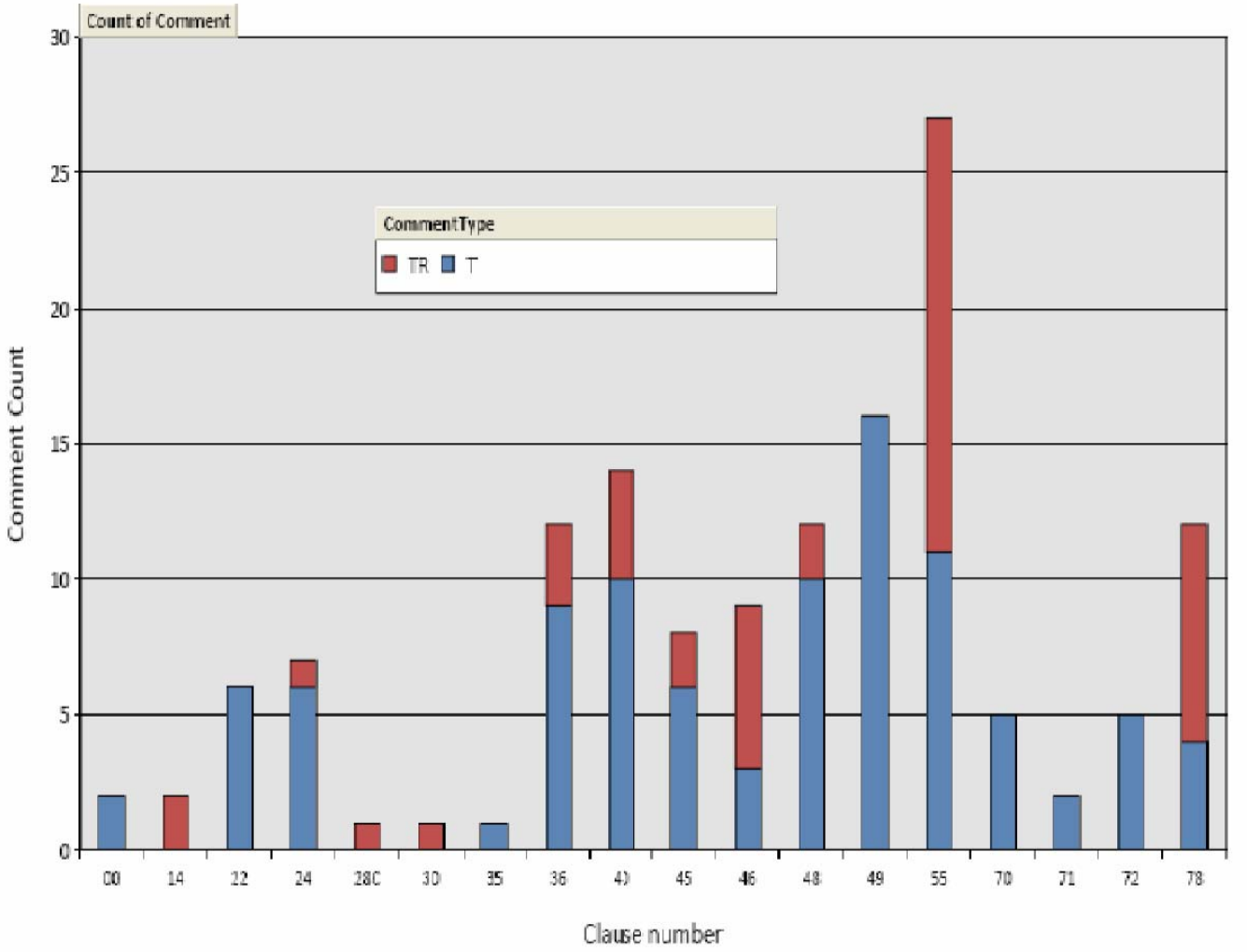
- Comment stats on D1.1 (technical)



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- Progress (cont.)
  - Motions from the Interim

    - Move that the IEEE 802.3az TF adopt diab_02_0109.pdf (pages 21 - 29) as a baseline for inclusion in D1.2, with an editor's note outlining the work to be done, and to charter an ad-hoc to progress the work.

      M: S. Carlson S: A. Vetteth

      Technical ≥75%: Y: 18 N: 0 A: 2

      Motion passes

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- Progress (cont.)
  - Motions from the Interim
    - Move that the 802.3az TF adopt pillai_01_0109.pdf (pages 3 - 6) as the baseline for inclusion in Draft 1.2 of P802.3az.

    P: Velu Pillai S: Hugh Barrass

    Y: 16 N: 0 A: 1

    Technical ≥75%

    Motion passes

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- Progress (cont.)
  - Motions from the Interim
    - Move that the 802.3az TF adopt pillai_02_0109.pdf (pages 3 - 15) as the baseline for inclusion in Draft 1.2 of P802.3az.

    P: Velu Pillai S: Hugh Barrass

    Y: 16 N: 0 A: 1

    Technical ≥75%

    Motion passes

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- Progress (cont.)
  - Motions from the Interim
    - Move that the 802.3az TF adopt louie_01_0109.pdf (pages 4 - 5) as the baseline for inclusion in Draft 1.2 of P802.3az.

    P: Velu Pillai S: Brian Dietz

    Y: 16 N: 0 A: 1

    Technical ≥75%

    Motion passes

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- Progress (cont.)
  - Motions from the Interim
    - Grant the editors license to resolve all of the remaining unresolved editorial comments.

    P: Hugh Barrass S: Dimitry Taich

    P: 19 S: 0 A: 0

    Technical ≥75%

    Motion passes

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- Progress (cont.)
  - Motions from the Interim
    - Move that draft 1.1 plus the resolution of comments as recorded in 8023azd1p1.pdf and motions on draft 1.1 be used as the basis for the generation of draft 1.2 of 802.3az

    P: David Law S: Brian Dietz

    Y: 16 N: 0 A: 0

    Technical ≥75%

    Motion passes

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- Editorial team produced D1.2
  - Review began February 5, 2009
  - Due to misunderstanding of motion #2, a section of clause 78 was inadvertently missed
  - Thanks to efforts of Wael Diab, Anoop Vetteth and Sanjay Kasturia, we were able to include the materials in the draft version 1.2.1 (posted 2/19/09)
    - The only major change was the addition of subclauses 78.4.3 (data link timing requirements) and 78.4.4 (control state diagrams)
  - Comment submission deadline February 24, 2009
- Comments received on D1.2.1
  - 210 comments received
    - 139 technical (89 T + 50 TR)
    - 71 editorial (50 E + 21 ER)

Goals for this Meeting

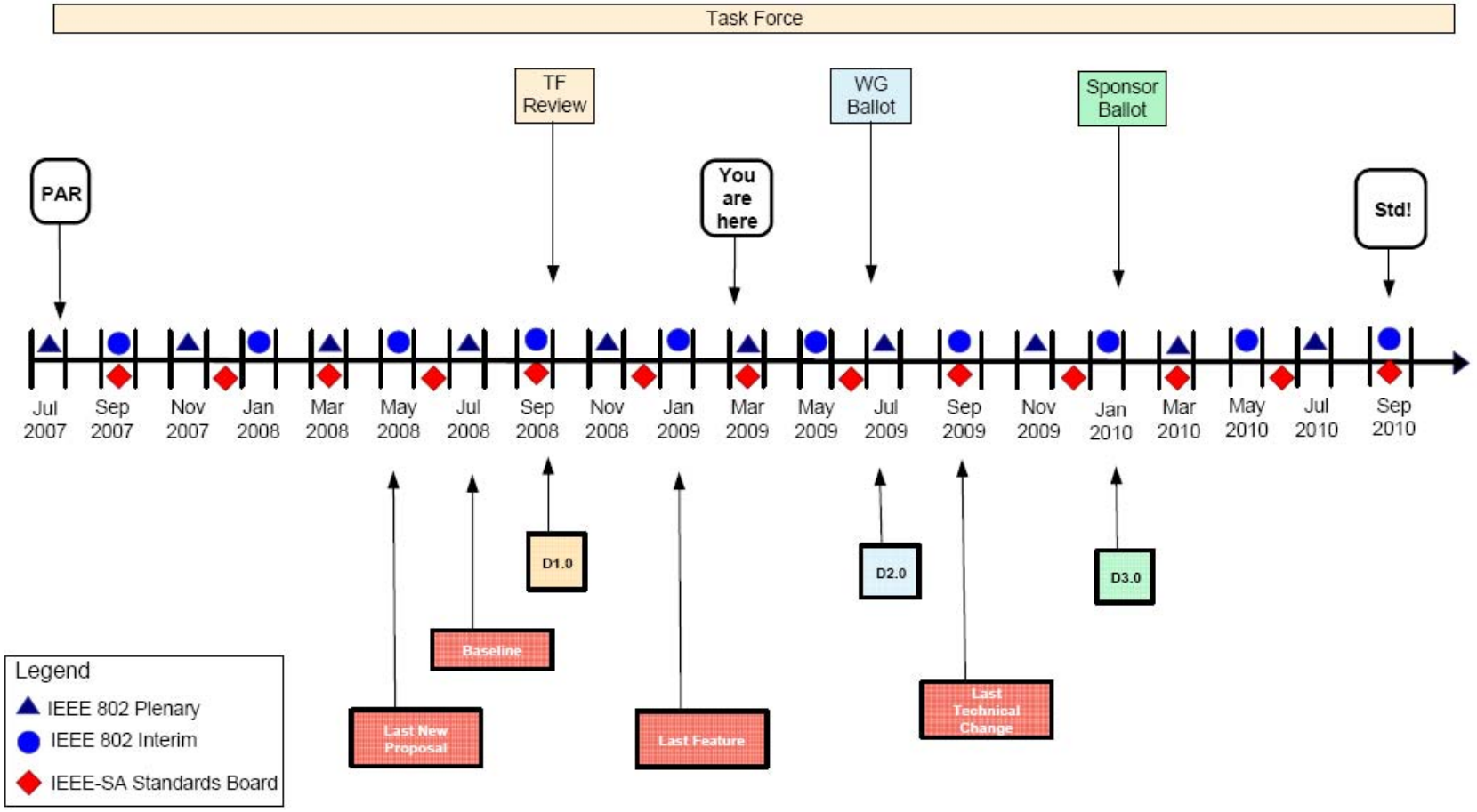
- Continue filling in holes
  - Mostly refinement
  - Review architecture for backplane
  - Fill in remaining TBDs (AKA “need value”)

- Open items
  - Identify tests / test modes to verify Low Power Idle signaling
  - Account for shrinkage of tx and rx wake times for each PHY
    - Wake time shrinkage ad-hoc charted to do this and recommend the minimum, if any, wake time that is specified for the rx system
  - Review and refine the Layer 2 (LLDP) section of the draft
    - Ad hoc formed to identify remaining open items
    - Recommendations to make that section of the draft technically complete

Goals for this Meeting

- Open Items (continued)
  - Backplane
    - Clause 72, Rx LPI State diagram not correlated with Clause 49.
    - Clause 72/73 need method to sync start of FEC on Wake.
    - Proposed auto-negotiated quiet/refresh times need to be put into PHY clauses.
- Review comments on D1.2.1
- Review draft D1.2.1 and proposed changes
- Direct editors to produce D1.3 for Task Force review
  - Planning to ask for WG Ballot in July

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**

Thank You!