



# IEEE 802.3az Energy Efficient Ethernet

## Opening Plenary Report

Orlando, FL  
March 15, 2010

Mike Bennett  
[mjbennett@ieee.org](mailto:mjbennett@ieee.org)



# IEEE 802.3az EEE Contacts

- Task Force Chair

- Mike Bennett (mjbennett@ieee.org)

- Web Master

- Bruce Nordman (bnordman@lbl.gov)

- Editor-in-Chief

- Sanjay Kasturia (kasturia@teranetics.com)



# Reflector and Web

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

[ListServ@ieee.org](mailto: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](mailto: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 D2.3
- Task Force *private* web page URL:

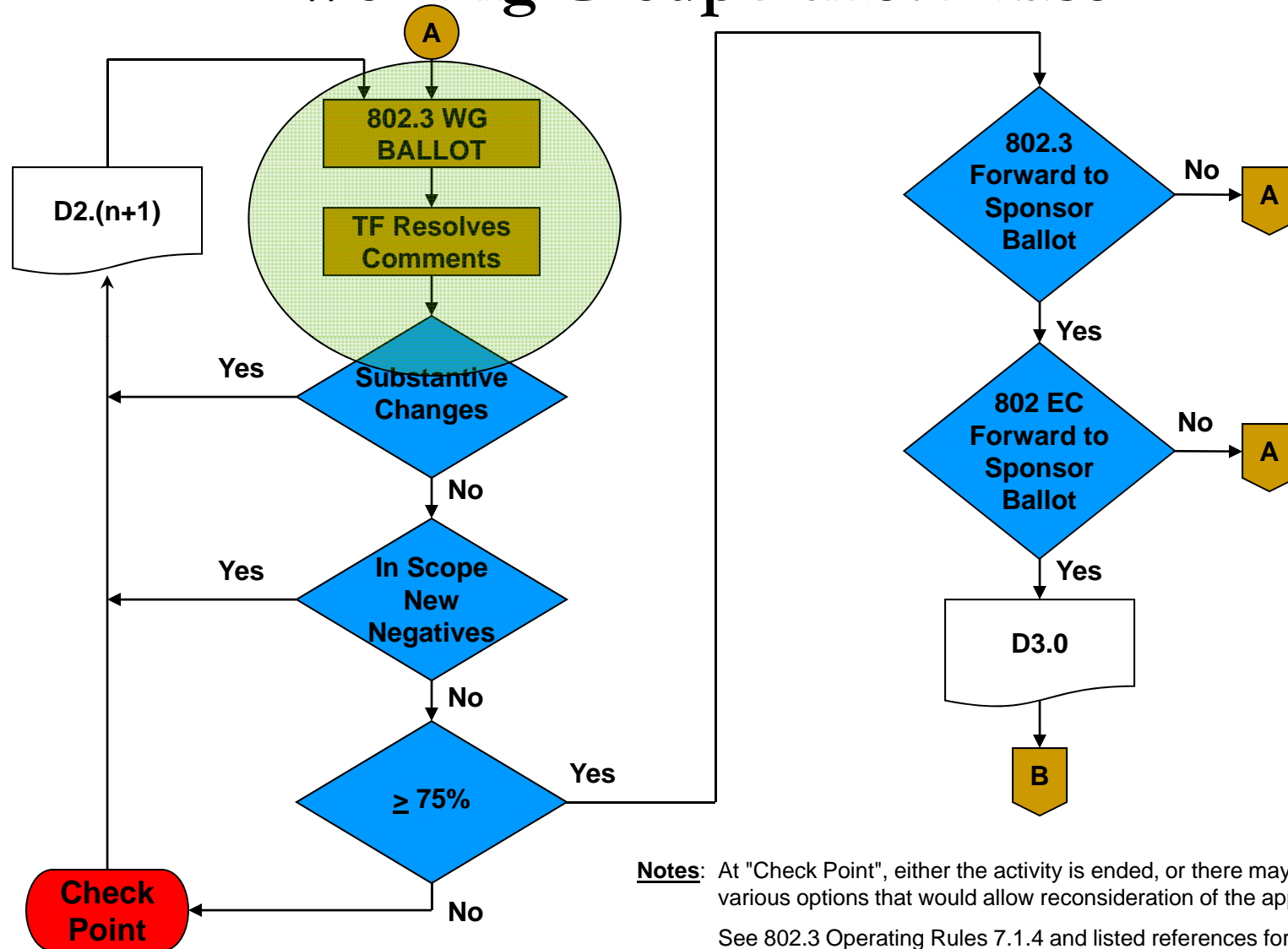
***<http://www.ieee802.org/3/az/private/index.html>***

***Login: 802.3az***

***Password: xxxxxxxx***

# Overview of IEEE 802.3 Standards Process (3/5)

## Working Group Ballot Phase



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

See 802.3 Operating Rules 7.1.4 and listed references for complete description

# 802.3az Task Force Report

- 3rd Working Group ballot recirculation
  - Ballot open: Thursday, 18th, February 2010
  - Ballot close: Friday, 5th March 2010 11:59PM  
AOE

# 802.3az Task Force Report

## ■ Ballot Results on D2.3

Comments	79	3rd Working Group Ballot Recirc Draft 2.3			Req %
		#	%	Status	
Abstain		21	14.38%	PASS	< 30
Disapprove with comment		5			-
Disapprove without comment		0			-
Approve		120	96.00%	PASS	≥ 75
Ballots returned		146	70.19%	PASS	≥ 50
Voters		208			

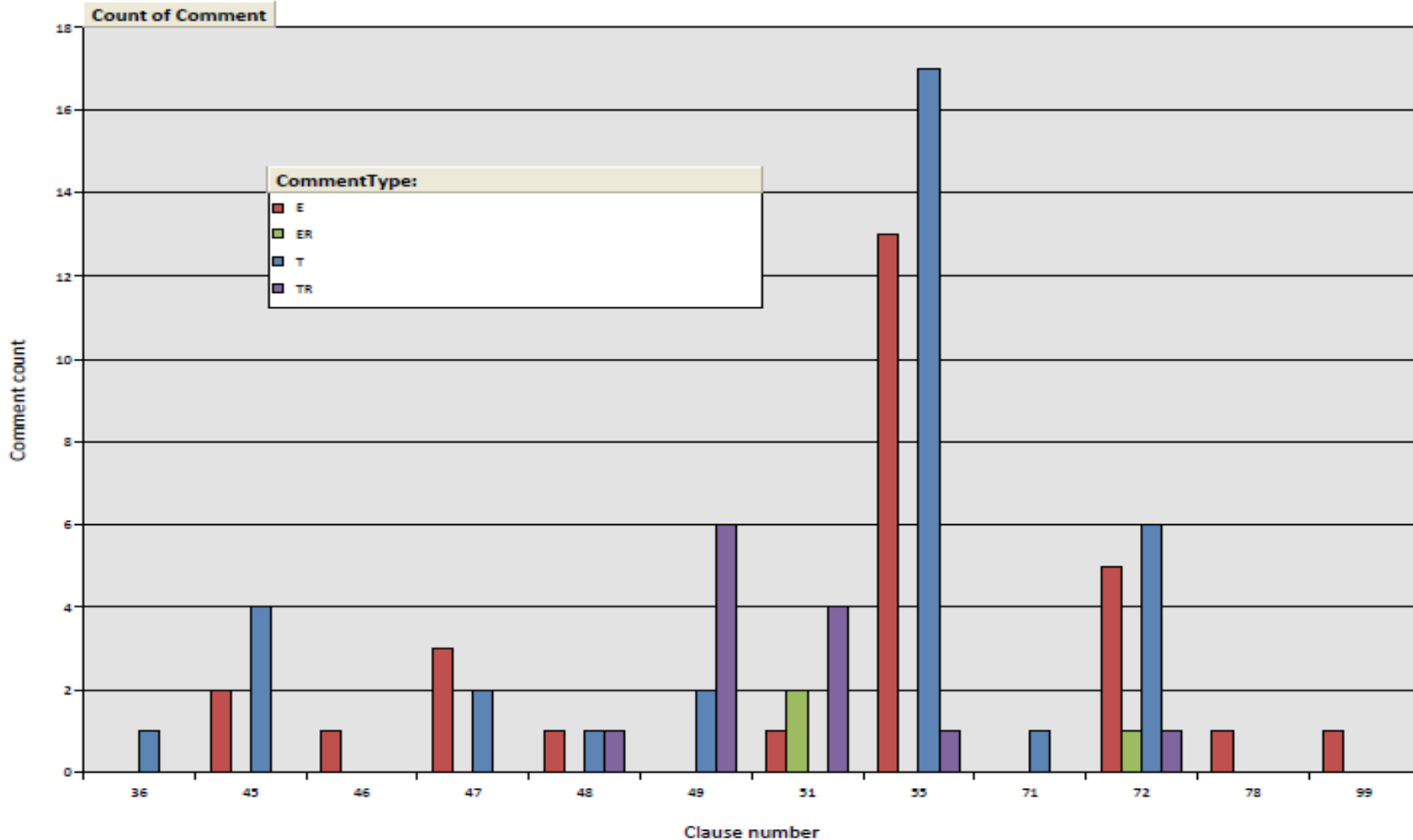
### □ 79 comments received

- 30 E
- 3 ER
- 35 T
- 11 TR

□ Note: 3 “TR” comments received with “Approve w/comment”

# 802.3az Task Force Report

## ■ Comment Results on D2.3





# 802.3az Task Force Report

- Interim meeting
- January 25-29, New Orleans, LA
  - Convention Center Marriott Hotel
  - Hosted by Applied Micro
    - Thanks!
    - Attendance: ~20 people

# 802.3az Task Force Report

## ■ Ballot Results on D2.2

Comments	112	2nd Working Group Ballot Recirc Draft 2.2			Req %
		#	%	Status	
Abstain		22	15.17%	PASS	< 30
Disapprove with comment		17			-
Disapprove without comment		0			-
Approve		106	86.18%	PASS	≥ 75
Ballots returned		145	69.71%	PASS	≥ 50
Voters		208			

- 112 comments received
- E 13
- ER 7
- T 47
- TR 45

# 802.3az Task Force Report

## ■ Presentations/Contributions

- Moving IEEE P802.3az to Sponsor ballot and RevCom  
Wael Diab, Broadcom and David Law, 3Com
  
- 10GBASE-T ad hoc report - Fast retrain and link monitoring  
Gavin Parnaby, Solarflare

# 802.3az Task Force Report

## ■ Presentations/Contributions

- Energy Efficient Ethernet 10GBASE-T LPI During Training
- Energy Efficient Ethernet 1000BASE-T LPI Request During Retraining
- 10GBASE-T TX\_NORMAL to SEND\_SLEEP Transition
  
- Mike Grimwood, Broadcom

# 802.3az Task Force Report

## ■ Motions from the Interim

### Motion #02 -

Accept comment resolutions from D2.2 as recorded in the comment database.

Direct the IEEE P802.3az editorial team to generate draft 2.3, based on Draft 2.2 and the resolution of comments against Draft 2.2.

Direct the Working Group chair to conduct an IEEE 802.3 WG recirculation ballot for P802.3az/D2.3

Moved by: H. Barrass

Second by: M. Chadha

All Y:17 N:1 A:0 Technical;  $\geq 75\%$  required to pass

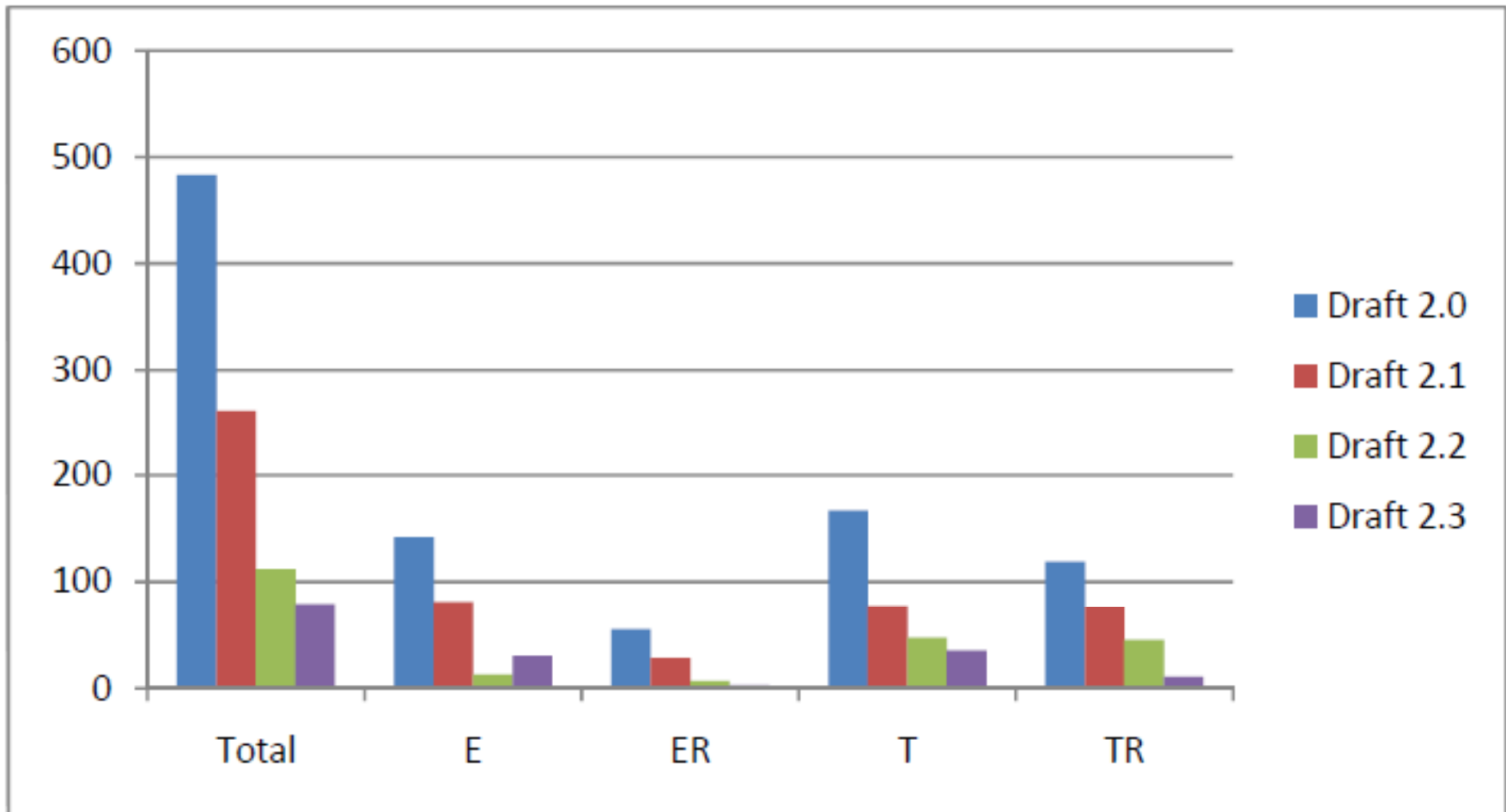
Motion passed

# Goals for this Meeting

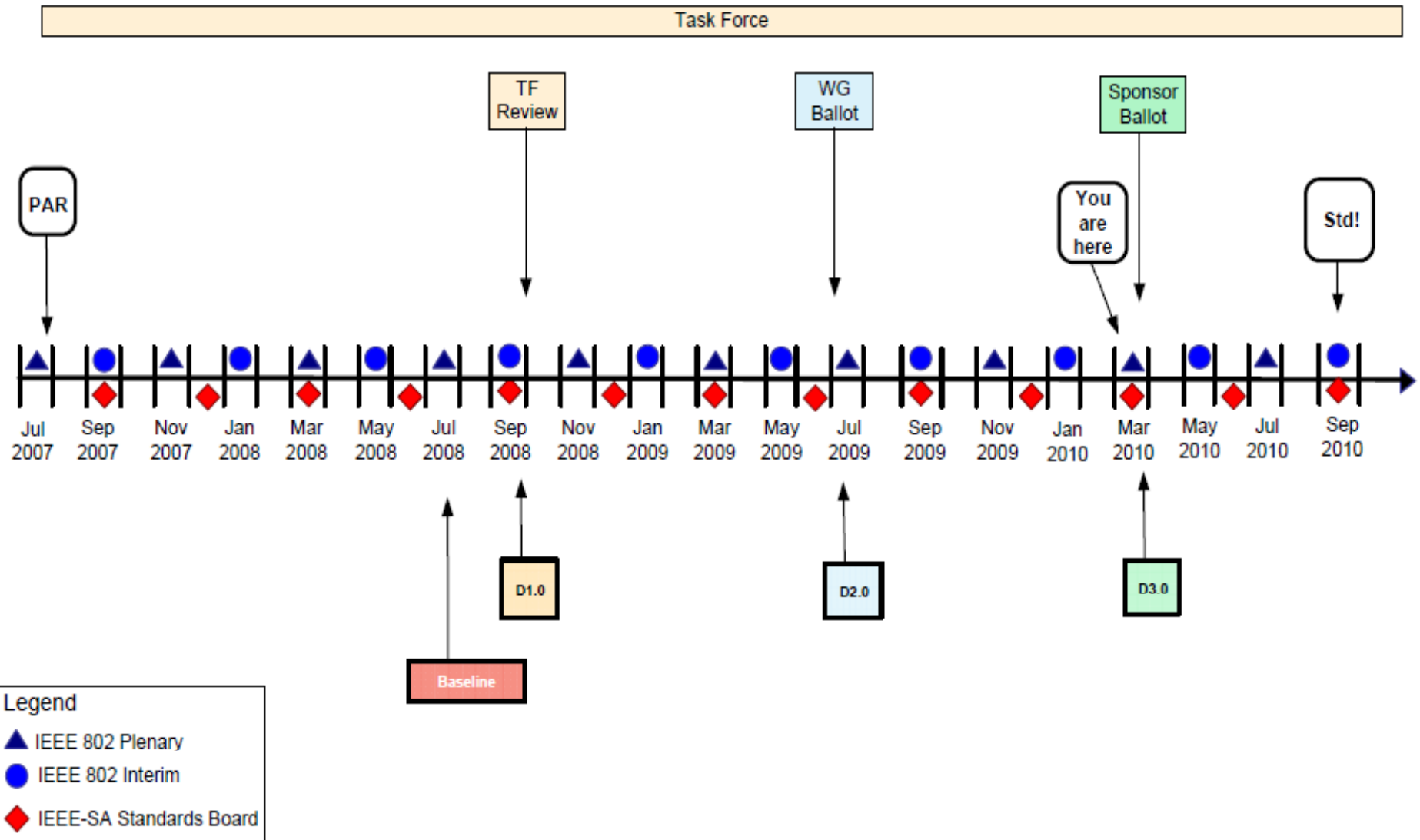
- Process comments against D2.3
- Direct editorial team to produce next draft
- Try to progress to Sponsor Ballot

# 802.3az Task Force Report

## Comment trend



# 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**
- 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!

