

IEEE P802.3av «10GEPON» Task Force

Report to IEEE 802.3 Closing Plenary

November 15, 2007

Atlanta, GA

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Accomplishments This Week

- **Reviewed 16 presentations**
 - 7 presentations submitted from the floor
- **Accepted Baseline Proposals**
 - Major PMD Rx and Tx parameters (Y: 42 N:0 A:5)
 - Remaining downstream wavelength bands (Y: 31 N:3 A:10)
 - Adjustable laser on/off times (Y: 33 N:0 A:3)
 - FEC mechanism – RS(255, 223) (Y: 22 N:3 A:12)
- **Approved Draft 1.0** (Y: 32 N:0 A:0)
 - Did a full cycle of comments resolution
- **Approved Project Timeline** (Y: 29 N:0 A:4)

Objectives

- Support subscriber access networks using point to multipoint topologies on optical fiber
(Passed by voice vote without opposition)
- PHY(s) to have a BER better than or equal to 10^{-12} at the PHY service interface
(Passed by voice vote without opposition)
- Provide physical layer specifications:
 - PHY for PON, 10 Gbps downstream/1 Gbps upstream, single SM fiber
 - PHY for PON, 10 Gbps downstream/10 Gbps upstream, single SM fiber
(Y: 34, N:0, A: 2)
- Define up to 3 optical power budgets that support split ratios of 1:16 and 1:32, and distances of at least 10 and at least 20 km.
(Y: 51, N:0, A: 10)

Three Optical Power Budget Classes

- **Symmetric power budgets:**
 - **PR10** – 20 dB (for the same outside plant as PX10)
 - **PR20** – 24 dB (for the same outside plant as PX20)
 - **PR30** – 29 dB
- **Asymmetric power budgets (10G down/1G up):**
 - **PRX10** – 20 dB (for the same outside plant as PX10)
 - **PRX20** – 24 dB (for the same outside plant as PX20)
 - **PRX30** – 29 dB
- **How do we fulfill our objectives?**

	1:16	1:32
10 km	PR10, PRX10	PR20, PRX20
20 km	PR20, PRX20	PR30, PRX30

PMDs

OLT Side

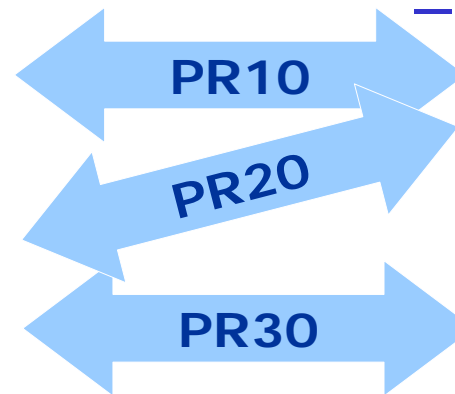
ONU Side

– Symmetric

- 10GBASE-PR-D1
- 10GBASE-PR-D2
- 10GBASE-PR-D3

– Symmetric

- 10GBASE-PR-U1
- 10GBASE-PR-U3

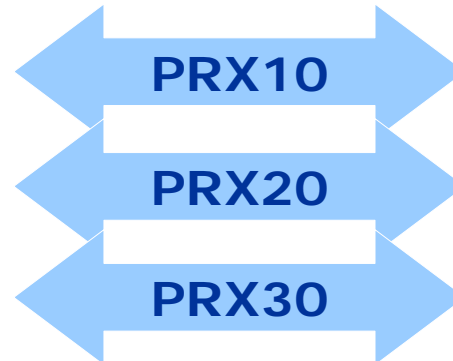


– Asymmetric

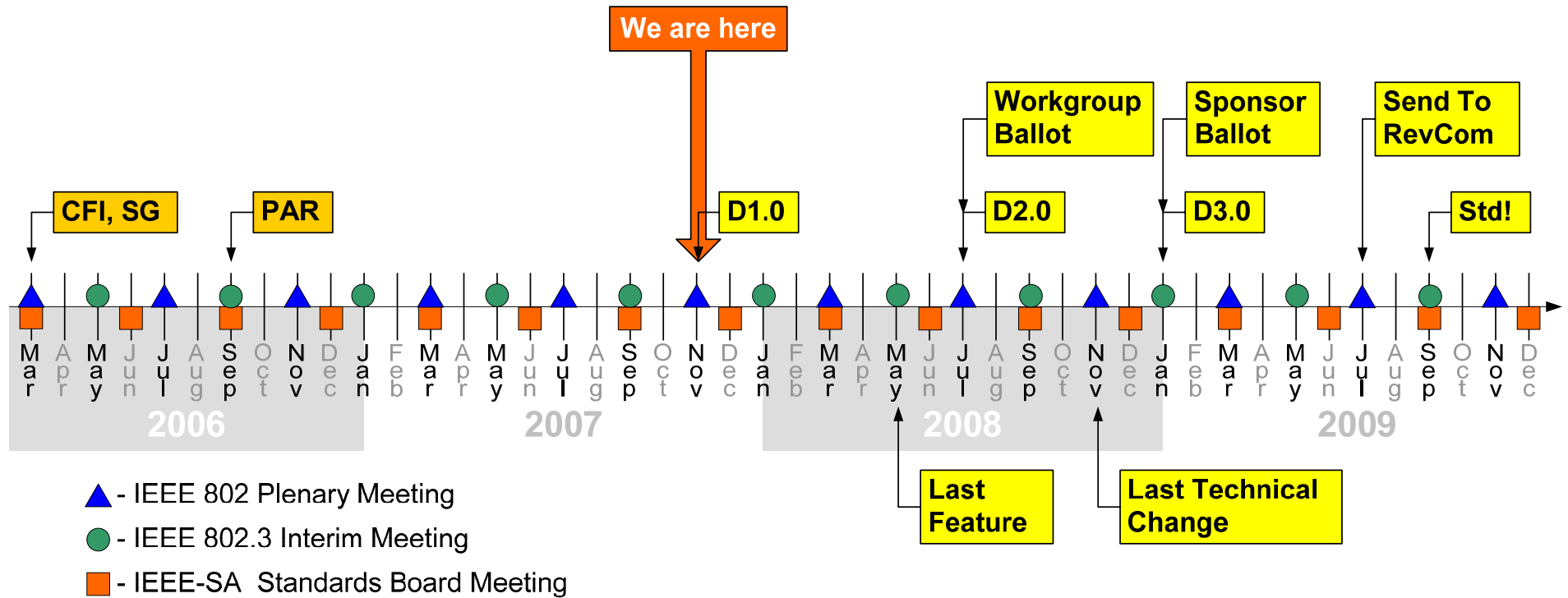
- 10/1GBASE-PRX-D1
- 10/1GBASE-PRX-D2
- 10/1GBASE-PRX-D3

– Asymmetric

- 10/1GBASE-PRX-U1
- 10/1GBASE-PRX-U2
- 10/1GBASE-PRX-U3



TF Approved Project Timeline



Approved by TF on November 15, 2007

Y:29 N:0 A:4

Actions for January

- **Commenting period for D1.0**
 - Draft is available at <http://www.ieee802.org/3/av/private/drafts.html>
 - 802.3av / *****
 - Comment Submission deadline – December 17, 2007
- **Remaining PMD parameters**
 1. Burst mode timing study (AGC, CDR)
 2. Transmitter spectral limits
 3. Define TDP value
 4. Jitter budgets reference model
 5. PRX30 Upstream power budget
- **10G PCS changes for burst-mode operation**
 1. Synchronization FSM
 2. BER monitoring
 3. Link fault Signaling
 4. PCS diagnostic modes
- **Coexistence model description**
 1. Layering diagram
 2. Dual-rate burst-mode receiver

Joint ITU-T/IEEE Workshop

- ITU-T SG15 considers organizing joint ITU-T SG15/FSAN/ IEEE 803.3av workshop on broadband optical access network issues
 - ITU-T headquarters in Geneva, Switzerland
 - June 19-20, 2008

Straw Poll (everybody in the room)

- I will definitely participate 10
- I will likely participate 5