Meeting Minutes

Group: IEEE 802.3 100G-EPON Task Force

Event: Task Force Interim meeting

Date: **From**: 20 Jan, 2016 **To**: 21 Jan 2016

Location: Atlanta GA, USA

20 Jan 2016

9:00 AM – The meeting was called to order by the Working Group Chair. Duane Remein is serving as recording secretary.

Motion #1
Confirm Curtis Knittle as the IEEE 802.3cb 25 Gb/s, 50 Gb/s, and 100 Gb/s EPON Task Force Chair.
Moved: Kevin Noll Seconded: Duane Remein
For: 26 Against: 0 Abstain: 0
75% by Rule Motion Passed

The new Chair held Introductions and gave his opening report. The following appointments were made: Glen Kramer as Vice Chair and Marek Hajduczenia as Chief Editor.

Motion #2
Approve the agenda for Task Force meeting to be held Jan 20-21 2016, in Dallas, TX, located in file http://www.ieee802.org/3/NGEPONSG/public/2015_11/ngepon_1511_agenda_v1.pdf
Moved: Glen Kramer Seconded: Frank Effenberger
Procedural > 50% Passed by voice without opposition

The Chair reviewed meeting decorum, the Task Force reflector & web page, IEEE Organization & Bylaws, Guidelines for IEEE-SA Meetings. The IEEE patent policy was read.

9:22 AM –A call for patents was made. No response to the call for patents was received.

The Chair reviewed the IEEE process, goals for meeting, project documents/objectives, future meeting (Macau in March, Whistler BC in May) polls were taken.

Presentations and Discussion

9:30 AM –Presentations

100G EPON Backward Compatible with 10G EPON

M. Emmendorfer **Arris**

This presentation reviewed coexistence objectives and how various mechanisms could be used to meet these objectives. Discussion reveled that there was confusion on the meaning of the term coexistence

and it was suggested that the group agree on the definition of this term.
emmendorfer_3ca_01b_0116.pdf

100G EPON reference Models **E. Dai** **Cox Communications**
This presentation covered bonding architecture options in conjunction with Network configurations. Three bonding options were covered: PHY layer, RS layer, and MAC layer. Network configurations included 25G ONU on 4 separate wavelength pairs, 50G ONUs (2 wavelength pairs), 75G ONU (3 wavelength pairs), and 100 G ONUs (all 4 pairs).
dai_3ca_01_0116.pdf

NG-EPON: Considerations on architecture **Y. Guo** **ZTE**
This presentation covered bonding architecture options and suggested a multi-step approach. First step would be a single 25G lane and second step would be a multi-lane specification based on a 25G per lane.
guo_3ca_01a_0116.pdf

Frame latency issues in multi-lane EPON **G. Kramer** **Broadcom**
This presentation addressed potential latency issues in multi-lane systems discussed in the SG/TF and included simulation results (see kramer_3ca_3_0116.xlsx) showing where in the path each delay component occurred.
kramer_3ca_1a_0116.pdf

Options for placing the channel bonding sublayer
G. Kramer **Broadcom**
This presentation examined where to perform bonding in the layer model and issues that need to be resolved for each option.
kramer_3ca_2b_0116.pdf

RS Layer work plan **D. Remein** **Huawei**
This presentation outlined items within the RS that may/will need to be addressed by the Standard.
remein_3ca_1_0116.pdf

Baseline proposals for NG-EPON PCS **M. Hajduczenia** **Bright House Networks**
This presentation outlined the 10G-EPON PCS layer.
hajduczenia_3ca_1_0116.pdf

PMD Work Areas **F. Effenberger** **Huawei**
This presentation outlined items within the PMD layer that may/will need to be addressed by the standard.
effenberger_3ca_01_0116.pdf

NG-EPON PMD analysis **Y. Guo** **ZTE**
This presentation examined possible modulation techniques that could be used and concluded that NRZ is preferred.
guo_3ca_02a_0116.pdf

5:17 PM – recessed.

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9:05 AM – reconvened.

It was agreed to amend the agenda to allow a late presentation from Jorge Salinger to be given.

Presentations (continued)

Towards building a low cost 25G "base PHY" for 100G EPON

E. Harstead **Alcatel-Lucent**

This presentation explored the possibility of defining a wavelength plan that included one low cost "base" lane in O band and three DWDM bands for higher performing ONUs. FEC was also considered and the possibility of using a hard decision LDPC FEC was suggested.

harstead_3ca_1b_0116.pdf

O-band DWDM NRZ transmission of 100G-EPON

H. Lee **ETRI**

This presentation addressed Coexistence Requirements, Wavelength Plan, Line code, ONU Tuning of 25G ONUs, and Spectrum needed. The presentation concluded that O band could be used for 4 channel tuned DWDM.

lee_3ca_01a_0116.pdf

Wavelength Plan Proposals **F. Effenberger** **Huawei**

This presentation examined possible wavelength plans. An architecture with one single lane 25G generation system and a separate 4x25G channel 100G system. The possibility of a 4 channel CWDM system was also discussed.

effenberger_3ca_02_0116.pdf

Manage Colors for 100G EPON **E. Dai** **Cox Communications**

This presentation described using four 25Gb streams on the same ODN using wavelength routed (selective) and wavelength selected (broadcast over power split ODN) architectures.

dai_3ca_02a_0116.pdf

Flexible Wavelengths **R. Tucker** **Charter Communications**

This presentation discussed wavelength plan and its impact on PMD architecture, especially tunability.

tucker_3ca_1_0116.pdf

Straw Poll #1

P802.3ca will not define a new 10Gbps EPON PHY.

Agree: 19 Disagree: 0 No Opinion: 1

Straw Poll #2

The standard will enable an implementation optimized for a single wavelength pair operating at 25Gbps symmetric and for 25G/10G asymmetric.

Agree: 19 Disagree: 0 No opinion: 1

Motion #3
The P802.3ca standard shall enable an implementation using a single wavelength pair operating at 25Gbps symmetric. The P802.3ca standard shall enable an implementation using a single wavelength pair operating at 25/10Gbps asymmetric (reusing 10G-EPON US).
Moved: Jorge Salinger Seconded: Kevin Noll
For: 18 Against: 0 Abstain: 2
Technical ≥ 75%Passed

Presentations (continued)

100G EPON Standard Development Timeline and Work Plan Objective
J. Salinger **Comcast**
This presentation reiterated time-to-market need, and reviewed both objectives and timeline. An updated timeline was proposed
salinger_3ca_01_0116.pdf

Motion #4
Adopt the time line as presented on slide #1 in timeline_3ca_0116.pdf
Moved: Jorge Salinger Seconded: Kevin Noll
For: 8 Against: 0 Abstain: 0
Procedural > 50% Passed

Glen held a very short discussion on Web file naming. It was agreed that files would be of the form:
presenter_3ca_#a_mmyy.pdf
where:
"*presenter*" is the family name of the presenter,
"*3ca*" and "_" are literals
"#" is number of the presentation from the presenter without leading zeros (1, 2, 3, …),
"*a*" is an alpha character (a, b, c, …) indicating the revision of the posted presentation (the initial file has no letter, the first revision uses letter "a", the second revision uses "b"),
"*mm*" is the month (01, 02, …12), and
"*yy*" is year (16, 17, 18).

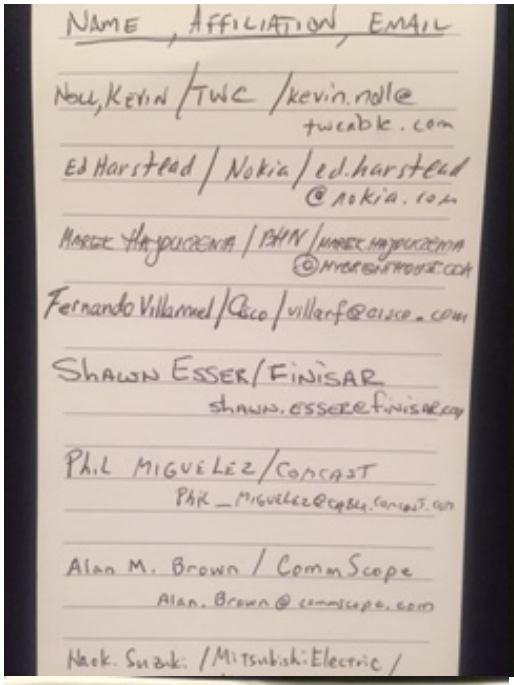
The Chair presented his closing report including the following topics:
There was a short discussion on allowing votes to be taken during conference calls; this would require an 802.3 rules change.
It was noted that additional details are requested from the 4 work area leads (MPCP, RS, PCS/PMA, & PMD). In particular decisions and their interdependencies should be identified. The eventual outcome may become a detailed project plan.

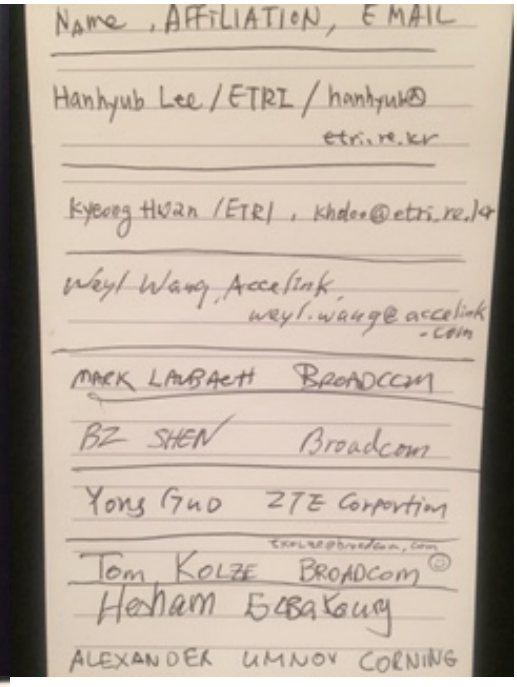
Motion #5
Move to Adjourn
Moved: Jorge Salinger Seconded: Duane Remein

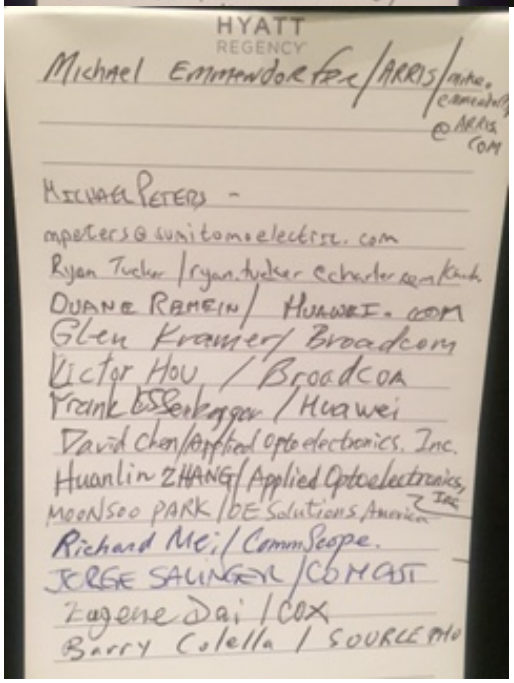
Procedural > 50%	Passed by voice without opposition

5:22 PM - The meeting was adjourned.

Attendees on 1/20:







Attendees on 1/21: