(Approved 5/15/2013)
IEEE P802.3bn EPoC PHY Task Force
March 19-21, 2013,
Orlando, FL
Chair: Mark Laubach
Recording Secretary: Duane Remein

Summary:

The P802.3bn Task Force met between March 19 and 21 during the IEEE 802 Plenary meeting. The Task Force reviewed 41 presentations. Twenty-eight (28) technical motions were passed, including one (1) baseline proposal. A summary of decisions can be viewed at decisions and baseline proposals. The updated Time Line can be viewed at: timeline.

Opening

Tuesday 3/19/2013
8:05 AM The Chair called the meeting to order. Introductions and affiliations were made.

Motion #1

Move to approve the minutes from the Jan. meeting.

Moved: Duane Remein
Second: Victor Hou

Procedural (> 50%) Motion Passed by Voice without opposition

The Chair inquired if there was anyone from the press present, no one made themselves known. The Chair covered meeting goals, reflector, web page (including username and password), ground rules, and IEEE structure.

8:17 The Chair reviewed the IEEE Patent Policy slides 1-4 and made a call for patents, no response was received.

The Chair covered affiliation and attendance requirements, including the IEEE attendance tool.

The Chair announced receipt of a liaison letter from ITU-T Study Group 9 (Q9/1) regarding HiNoC v1 standardization work. Two documents were attached to the liaison (J.HiNoC-phy "PHY layer specification of high performance network over coax" and J.HiNoC-mac "MAC layer specification of high performance network over coax"); the Chair suggested 802.3bn members review these documents. The Chair proposed a response to be voted on Thursday morning.

A second liaison was received by 802.3 from ITU-T SG15 “New versions of the Access Network Transport (ANT) Standardization Plan and Work Plan”, a paragraph to be included in the response to this liaison has been submitted to the 802.3 Chair regarding 802.3bn work.

The Chair noted that all formal communications between the Task Force and other outside groups must go through the 802.3 Chair.

The Chair reviewed work activities regarding Chinese language ad hoc activity and informal communication with Mr. Yao.

The Chair reviewed our timeline, noting that we are behind at this point (we should have a baseline draft at this point).

The Chair announced that Joe Solomon has been appointed as a Co-Editor.

The Chair discussed possible additional interim meetings, noting that Task Force consensus will be required for these additional meetings. A proposal has been made for a meeting in Beijing the 1st week of June, all details are TBD. This potential meeting was discussed briefly by the Task Force.

The Chair discussed time management and noted that he has, at personal expense, obtained a time tracking device to help with time management. The Task Force was duly impressed.

Motion #2

Move to approve the amended agenda for this meeting.

Moved: Duane Remein
Second: Kevin Noll

Procedural (> 50%) Motion Passed by Voice without opposition

9:10 AM – began presentations

Opening report: TDD Sub-Task Force

Steve Shellhammer Qualcomm

Summary of TDD Sub-task Force activities since the last meeting and review of several motions intended to be made during this meeting.

Opening report: Channel Model ad hoc

Duane Remein Huawei

Summary of Channel Model Ad Hoc activities since the Phoenix meeting and review of a motion on baseline channel model intended to be made during this meeting.

Opening report: Evaluation Criteria and Requirements ad hoc

Steve Shellhammer, Guangsheng Wu Qualcomm, Huawei

Summary of Evaluation and Requirements Ad Hoc activities and straw polls since the Phoenix meeting and motions intended to be made this meeting. The Ad Hoc Chair recommends continuing regular calls in China but only hold US calls as needed.

Opening report: MMP ad hoc

Saif Rahman on behalf of Jorge Salinger Comcast
Summary of MMP Ad Hoc activities and straw polls since the Phoenix meeting and reviewed a motion intended to be made during this meeting on MMP.

Opening report: PHY Link ad hoc

Ed Boyd Broadcom
Summary of PHY Link Ad Hoc activities and straw polls since the Phoenix meeting and potential motions to be made during this meeting.

Opening report: RF Spectrum ad hoc

Steve Shellhammer Qualcomm
Summary of RF spectrum Ad Hoc activities and straw polls since the Phoenix meeting and potential motions to be made during this meeting.

10:10 AM Steve Shellhammer assumed TF Chair while Mark Laubach presented.

Work Plan and Baseline Checklist Going Forward

Mark Laubach Broadcom
Review of open items that need to be addressed by the Task Force before the draft can be considered complete. Areas include UD & DS RF link, PHY Link, other architecture/system issues, management, Consensus challenge items (from Geneva), Baseline needs (clause outlines), Electrical specifications, and functional assumptions. This also discussed time required to develop the draft standard (baseline proposals). Suggested that Chair & Vice Chair track check-lists, work plans, etc. to assist the Task Force in progressing the standard.

10:40 AM Mark resumed Task Force Chair.

Editor Presentations

Care and Feeding of Editors - What your editors expect from a baseline proposal

Duane Remein Huawei
General presentation on the responsibilities of the Editors and what is expected from a baseline proposal from the Editors perspective.

EPoC PCS structure

Marek Hajduczenia ZTE
Overview of PCS structure as illustrated by 802.3av with some additional examples.

PMD structure

Saif Rahman Comcast
Overview of PMA/PMD sub-layers with an example of sub-layer structure and possible functions.

MPCP clause outline

Duane Remain Huawei
Possible outline for the MPCP Clause (largely copy of Clause 64/77 outline)

11:30 AM - recessed for Lunch

12:40 PM – reconvened by Chair

Main Task Force Presentations

Management registers and MIB objects

Howard Frazier Broadcom
Overview of management within 802.3 and, more specifically, use and characteristics of MDIO.

EPoC Downstream Pilot Proposal

Christian Pietsch, Avi Kliger Qualcomm, Broadcom
Proposal for DS pilot structure for both FDD & TDD

EPoC Upstream Pilot Proposal

Avi Kliger, Christian Pietsch Broadcom, Qualcomm
Proposal for US pilot structure based on various sized resource blocks each with some number of sub-carriers and symbols. Each resource block would have data, pilots, and possibly burst markers.

Upstream Burst Markers

Ed Boyd, Avi Kliger Broadcom
This presentation proposed a mechanism to differentiate between upstream bursts, in both time and frequency, between different profiles within the same or different symbols. The basic idea is a very short sequence of low order modulation communicating a few bits to discriminate and identify between a small set of profiles.

Upstream MMP

Ed Boyd, Juan Montojo Broadcom, Qualcomm
This presentation outlines a mechanism that could be used to support multiple modulation profiles in the upstream channel.

Markers for EPoC Burst Mode

Nicola Varanese, Hendrik Schoeneich, Juan Montojo Qualcomm
This presentation included a detailed proposal on upstream and downstream burst markers.

Data Rate Adaptation (part1) and (part2)

Marek Hajduczenia, Andrea Garavaglia ZTE, Qualcomm
Rehash of data rate adaptation material presented in Phoenix with pertinent updates and clarifications.

Straw poll #1

IDLE Deletion in EPOC RS in Rx direction to use 10G-EPON IDLE Deletion mechanism per IEEE Std 802.3, Clause 76. This applies to both CLT and CNU.

Yes: 38
No: 0
Undecided: 1

Straw poll #2

IDLE Insertion in EPOC PCS in Rx direction reuses 10G-EPONdesign as defined in IEEE Std 802.3, Clause 76. The value for FIFO_II_SIZE is TBD at this time, pending selection of FEC code and coax data rate. This applies to both CLT and CNU as per page 10 of garavaglia_3bn_03_0313.pdf.

Yes: 28
No: 8
Undecided: 3

Straw poll #3

IDLE Insertion in EPoC RS in the TX direction re-uses 10G-EPON design as defined in IEEE Std 802.3, Clause 77 with new FEC parameters for EPoC. The functionality is extended to include de-rating by means of a new function FEC_Derate_Overhead() that replaces the FEC_Overhead() function.

- The exact modifications to the overhead formula and related parameters are TBD as described in pages 21 and 22 of garavaglia_3bn_03_0313.pdf.

Yes: 19
No: 3
Undecided: 16

Power-Saving Mechanisms in IEEE Std 1904.1 (SIEPON)

Marek Hajduczenia, Motoyuki Takizawa ZTE, Fujitsu
This presentation provided an overview of sleep modes and mechanisms defined in Std 1904.1 SIEPON which could be adopted by EPoC with little or more modifications.

Power-Saving Mechanism for EPoC

Marek Hajduczenia ZTE
This presentation provided an overview of potential sleep mechanisms that EPoC could pursue.

6:18 PM - recessed for the day.

==========

TDD sub-Task Force Track

Wednesday March 20, 2013 (as parallel track to PHY sub-Task Force)
8:10 AM Called TDD sub-Task Force meeting to order.

TDD Open Items and Checklist

Steve Shellhammer, Andrea Garavaglia Qualcomm
A program management presentation covering items that will need to be addressed to conclude TDD Sub-task Force work. Other areas discussed; changes to GATEs or REPORTs, how to control CNU PHY

state (TX, RX & !RX), how to synchronize TDD Cycle between MAC and PHY at CLT, Physical plant dimensions, and CLT TX control (Data Detector behavior insufficient). A primary goal for the next meeting is to resolve the MAC/PHY synchronization issues.

Summary Presentation for TDD MPCP Enhancements

Andrea Garavaglia Qualcomm
Revisited slide set from Phoenix meeting (gravaglia_02a_0113.pdf).

TDD Straw poll #1

Do you support garavaglia_3bn_02_0313.pdf with changes as discussed in the TDD sub-Task Force meeting as a baseline for EPoC MPCP Clause 103?

Yes:	7
No:	0
Undecided:	1

10:35 AM the TDD Sub-task Force adjourned.

PHY sub-Task Force Track

Recorded by Victor Hou
Wednesday March 20, 2013 (as parallel track to TDD sub-Task Force)
8:07 AM PHY sub-Task Force called to order

64b/66b Line Code

Marek Hajduczenia-ZTE

9:56 AM, Mark Laubach passes gavel to Ed Boyd as Chair of PHY Link ad hoc.

PHY Link Ad Hoc

PHY Link Channel

Avi Kliger, Nicola Varanese Broadcom, Qualcomm

PHY Link Channel and FEC

Avi Kliger Broadcom

PHY Config Switchover

Ed Boyd Broadcom

PHY Straw Poll #1

EPoC must support hitless switchover for certain PHY configuration (e.g., Bit loading, Nulling)?

Yes:	32
No:	0
Abstain:	1

PHY Straw Poll #2

The PLC should include a Configuration ID for hitless switchover?

Yes:	31
No:	0
Abstain:	3

PHY Straw Poll #3

The downstream PHY Link should include an error correcting code or error checking code?

Error Correcting	25
Error checking Code	4
Nothing	0
Abstain	7

PHY Straw Poll #4

The PLC is transparent to the MAC.

No additional Jitter and latency
No additional buffering

Yes	36
No	0
Abstain	2

PHY Straw Poll #5

The Downstream PHY Link Channel shall be composed of a start of frame delimiter (preamble) and PLC frame.

It will not include MAC Data.
Note: Guard time or dead-time may also be included.

Yes	23
No	0
Abstain	10

10:51 AM the PHY Sub-task Force adjourned

11:03 AM Chair reconvened Main Task Force track after TDD and PHY Sub-task Force concluded their parallel tracks.

Channel Model Ad Hoc

Channel Model Ad Hoc face-to-face opening slides

Duane Remein Huawei
Channel Model Ad Hoc F2F opening slides including preview of proposed motion on Baseline Channel Model

Baseline Channel Model

Rob Howald, (Saifur Rahman of Comcast presented for Rob), Duane Remein Motorola, Huawei
Proposed Baseline Channel Model

Action Item: Duane to post excel spreadsheets in ad hoc space or other space designated by Mark Laubach

12:05 Recessed for Lunch

1:20 PM Reconvened by Chair

Cable network situation in Japan and Requirements for EPoC

Keiji Tanaka KDDI
Input from Japanese operators on EPoC. Topics covered include; spectrum use and allocation, transmission technologies (FDD required), Cable Network supporting 256 CNUs preferred.

Short discussion on Baseline Channel Model showing revised presentation.

General Presentations

Broadcast LLID and Discovery

Ed Boyd, Marek Hajduczenia Broadcom, ZTE
This presentation suggested modifications to DISCOVERY to better accommodate EPoC.

Straw poll #4

The Discovery Information Field Definition should be modified to include EPoC.

EPoC Capable:	36
EPoC Discovery:	41
Neither:	0
Abstain:	3

EPoC and CNU Generations

Edwin Mallette Brighthouse Networks
This presentation provided BHNs view on introducing multiple generations of equipment with differing features in a network and the complexities involved. Load balancing and qualification are concerns. However this must be balanced with respect to cost (OPEX versus CAPEX).

FEC Code Evaluation Methodology for EPoC

Richard Prodan, BZ Shen Broadcom
Stefan Brueck, Tom Richardson Qualcomm
Bernard Arambepola Intel
This presentation outlined a proposed method of assessing various FEC proposals.

Straw Poll #5

DS continuous mode FDD shall use a LDPC codeword size of 16200 bits and a code rate of 8/9.

Yes:	37
No:	0
Undecided:	3

Wideband Channel Estimation in Upstream EPoC

Syed Rahman Huawei
Proposal on US probes for channel estimation.

PHY related EPoC Motions

Christian Pietsch, Nicola Varanese Qualcomm
Avi Kliger, Ed Boyd Qualcomm, Broadcom, Broadcom
Various straw polls on PHY Channel

StrawPolls #6

A raised cosine windowing function shall be applied (for details see slide 4 and slide 6 in "montreuil_01a_0113.pdf". The amount of overlap T_p shall be configurable. In terms of samples, possible values for T_p are 0, 32, 64, 128, 192, and 256

Yes:	33
No:	0
Undecided:	9

Straw Poll #7

The assigned RF bandwidth of an upstream channel shall be 192 MHz. The definition of exclusion bands will allow for smaller channels when there is not 192 MHz of spectrum available.

Yes:	33
No:	3
Undecided:	4

Straw Poll #8

The repetition of the preamble shall be aligned with the repetition of the regular pilot pattern, i.e., the preamble repeats every Y symbols, where Y is also the number of symbols in a downstream frame.
Notes:
Center frequency of PLC may or may not be the same as center frequency of the corresponding OFDM channel.

Yes:	35
No:	0
Undecided:	3

Straw Poll #9

Usage of Markers (Upstream)
The beginning of a burst is indicated by a start marker
The end of a burst is indicated by an end marker

Yes:	38
No:	0
Undecided:	5

Straw Poll #10

Usage of Markers (TDD Downstream)
The marker identifies when a profiles starts in TDD downstream. The marker is places at the beginning of each profile burst.

Yes:	29
No:	1
Undecided:	11

Straw Poll #11

Usage of Start Markers
The start marker indicates the profile that is used

Yes:	31
No:	2
Undecided:	9

Straw Poll #12

Definition of Markers
A Marker
* is a known sequence of modulated symbols (in frequency domain)
* shares the same resources as regular data symbols
- no dedicated control channel
- markers and pilots do not overlap

Yes:	36
No:	0
Undecided:	5

Straw Poll #13

Downstream Pilot Structure
Presentation "pietsch_3bn_01_0313.pdf" shall be adopted as a starting point towards a baseline proposal for the downstream pilot structure.

Yes:	28
No:	1
Undecided:	11

Straw Poll #14

Upstream Pilot Structure
Presentation "kliger_3bn_01_0313.pdf" shall be adopted as a starting point towards a baseline proposal for the upstream pilot structure.

Yes:	30
No:	1
Abstain:	12

Responses to Feedback on Channel Bonding Proposal

Steve Shellhammer, Patrick Stupar Qualcomm
Hesham ElBakoury, Duane Remein Huawei

This presentation provided answers to feedback on a channel bonding presentation given in the Phoenix meeting

Closing Reports and Motions

Motion #3

Adopt the Channel model parameter lists and topology illustrations shown in "remein_3bn_07_0313.pdf" as baseline channel conditions.

Moved: Duane Remein
Second: Saifur Rahman

For: 35
Against: 0
Abstain: 4

Technical (>= 75%) Motion Passed

Motion #4

The EPoC standard shall support multiple modulation profiles for the bursting DS and US PHY and a single modulation profile for the continuous DS PHY.

Moved: Saifur Rahman
Second: Edwin Mallette

For: 32
Against: 2
Abstain: 7

Technical (>= 75%) Motion Passed

Motion #5

EPoC PHY shall use the 64b/66b line coding (as defined in IEEE Standard 802.302012, Clause 49), with shortened Sync header (1 bit as in 10G-EPON).

Moved: Marek Hajduczenia
Second: Ed Boyd

For: 31
Against: 4
Abstain: 5

Technical (>= 75%) Motion Passed

Motion #6

Amend Agenda to go until 6:00 PM to allow additional motions to be considered.

Moved: Duane Remein
Second: John Dickinson

Procedural (> 50%) Motion Passed by Voice without opposition

Motion #7

The PLC shall be transparent to the MAC. It shall not add jitter or latency to the data.

Moved: Ed Boyd
Second: Christian Pietsch

For: 37
Against: 0
Abstain: 3

Technical (>= 75%) Motion Passed

Wed. 6:00 PM recessed for the day

==========

Thursday 3/21/2013
8:05 AM Task Force reconvened by Chair

TDD Sub-task Force Closing Report

Briefly reviewed TDD Sub-task Force meeting activities.

Straw Poll #15

Do you support document garavaglia_3bn_02a_0313 as a baseline for EPoC MPCP

Yes: 17
No: 0
Undecided: 16

Motion #8

Approve garavaglia_3bn_02a_0313 as a baseline for EPoC TDD MPCP, Clause 103.

Moved: Andrea Garavaglia
Second: Duane Remein

For: 19
Against: 0
Abstain: 20

Technical (>= 75%) Motion Passed

PHY Sub-task Force Closing Report

Motion #9

A raised cosine windowing function is applied (for details see slide 4 and slide 6 in "montreuil_01a_0113.pdf"). The amount of overlap T_p shall be configurable. In terms of samples, possible values for T_p are 0, 32, 64, 128, 192, and 256.

Moved: Ed Boyd
Second: Saifur Rahman

For: 29
Against: 0
Abstain: 10

Technical (>= 75%) Motion Passed

Motion #10

The supported RF bandwidth of an upstream channel shall be 192 MHz. The definition of exclusion bands shall allow for smaller channels when there is not 192 MHz of spectrum available.

Moved: Ed Boyd
Second: Saifur Rahman

For: 32
Against: 1
Abstain: 6

Technical (>= 75%) Motion Passed

Motion #11

The beginning of an upstream burst is indicated by a start marker
The end of an upstream burst is indicated by an end marker

Moved: Ed Boyd
Second: Saifur Rahman

For: 39
Against: 0
Abstain: 3

Technical (>= 75%) Motion Passed

Motion #12

The start marker identifies when a profiles starts in TDD downstream. The start marker is placed at the beginning of each profile burst.

Moved: Ed Boyd
Second: Saifur Rahman

For: 31
Against: 0
Abstain: 10

Technical (>= 75%) Motion Passed

Motion #13

The start marker indicates the profile that is used.

Moved: Ed Boyd
Second: Saifur Rahman

For: 33
Against: 1
Abstain: 7

Technical (>= 75%) Motion Passed

Motion #14

A Marker

- contains one of a predefined set of pre-defined set of sequences of modulated symbols (in frequency domain)
- shares the same resources as regular data symbols
  - No dedicated control channel
  - Markers and pilots do not overlap

Moved: Ed Boyd
Second: Saifur Rahman

For: 40
Against: 0
Abstain: 3

Technical (>= 75%) Motion Passed

Motion #15

Presentation "pietsch_3bn_01_0313.pdf" shall be adopted as a starting point towards a baseline proposal for the downstream pilot structure. Presentation "kliger_3bn_01_0313.pdf" shall be adopted as a starting point towards a baseline proposal for the upstream pilot structure.

Moved: Ed Boyd
Second: Saifur Rahman

For: 32
Against: 0
Abstain: 14

Technical (>= 75%) Motion Passed

Motion #16

The granularity for setting the Center Frequency (fc) of the 192 MHz OFDM Channel, in both US and DS, shall be 1 MHz.

Moved: Steve Shellhammer
Second: Duane Remein

For: 38
Against: 0
Abstain: 6

Technical (>= 75%) Motion Passed

Motion #17

The EPoC PHY shall be capable of communicating an upper bound of the RF spectrum of at least 5 GHz.

Moved: Steve Shellhammer
Second: Duane Remein

For: 30
Against: 0
Abstain: 11

Technical (>= 75%) Motion Passed

Motion #18

Downstream and upstream exclusion sub-bands within an OFDM channel can be configured in both the CLT and CNU by MDIO.

Moved: Steve Shellhammer
Second: Duane Remein

For: 39
Against: 0
Abstain: 3

Technical (>= 75%) Motion Passed

Motion #19

Downstream and upstream exclusion sub-band configuration in an OFDM channel can be communicated from the CLT to the CNU over the PHY Link Channel.

Moved: Steve Shellhammer
Second: Duane Remein

For: 41
Against: 0
Abstain: 3

Technical (>= 75%) Motion Passed

Motion #20

The PHY will have a number of MDIO registers to report on subcarrier or subcarrier group, signal parameters including quality.

Moved: Steve Shellhammer
Second: Duane Remein

For: 37
Against: 0
Abstain: 3

Technical (>= 75%) Motion Passed

Motion #21

The minimum contiguous downstream spectrum with no internal exclusion sub-bands should be 24 MHz. This does not preclude nulled subcarriers which do not carry information.

Moved: Steve Shellhammer
Second: Duane Remein

For: 24
Against: 4
Abstain: 14

Technical (>= 75%) Motion Passed

Motion #22

Move to Table motion 21

Moved: Tom Kolze
Second: Tom Staniec

For: 6
Against: 16
Abstain:

Procedural (> 50%) Motion Failed

PHY-Link Ad Hoc closing

Motion #23

The downstream PHY Link shall include an error correcting code.

Moved: Juan Montojo
Second: Kevin Noll

For: 37
Against: 1
Abstain: 4

Technical (>= 75%) Motion Passed

Motion #24

The PLC is transparent to the MAC.
No additional Jitter and latency
No additional buffering

Moved: Sanjay Kasturia
Second: Avi Kliger

For: 39
Against: 0
Abstain: 2

Technical (>= 75%) Motion Passed

Motion #25

The Downstream PHY Link Channel shall be composed of a preamble (with start of frame delimiter) and PLC frame. It will not include MAC Data. Note: Guard time or dead-time may also be included.

Moved: Juan Montojo
Second: Ed Boyd

For: 40
Against: 0
Abstain: 1

Technical (>= 75%) Motion Passed

Motion #26

The downstream PLC will be 400KHz wide without continuous pilots. 8 subcarriers at 50KHz spacing or 16 subcarriers at 25KHz spacing.

Moved: Nicola Varanese
Second: Avi Kliger

For: 31
Against: 1
Abstain: 10

Technical (>= 75%) Motion Passed

Evaluation and Requirements Ad Hoc closing

Future US calls will be held as needed. Regular calls will be schedule for Chinese participants.

Motion #27

The standard will target a downstream data rate of 1.6 Gb/s at the MAC/PLS service interface, in a 192-MHz OFDM channel, in baseline channel conditions (remein_3bn_07_0313.pdf).

Moved: John Ulm
Second: Duane Remein

For: 39
Against: 1
Abstain: 4

Technical (>= 75%) Motion Passed

Motion #28

EPoC Delay as calculated using the methodology described in garavaglia_02_0912.pdf (or a future update), should be used as an evaluation criteria in evaluating proposals.

Moved: Andrea Garavaglia
Second: Duane Remein

For: 31
Against: 1
Abstain: 10

Technical (>= 75%) Motion Passed

MMP Ad Hoc closing

Calls will be as needed, focus will be on "how" MMP is specified.

Misc Business

Time Line

The Task Force agreed to move the baseline by 2 plenary cycles with additional confirmation to be accomplished by the Task Force officers.

Meeting Proposal

The Task Force discussed holding an Interim meeting in China 1st week of June.

Motion #29

The Task Force will hold an additional interim meeting in China, the 1st week of June 2013. The host, venue, fee, and other details are T.B.D.

Moved: Saifur Rahman
Second: Steve Shellhammer

For: 6
Against: 16
Abstain: 15

Procedural (> 50%) Motion Failed

Liaison Letter

The Task Force discussed the liaison response to ITU-T SG9

Motion #30

Adopt Chair's draft for liaison response to ITU-T SG9.

Moved: Duane Remein
Second: Marek Hajduczenia

Procedural (> 50%) Motion Passed by Voice without opposition

DRA motions

Motion #31

In the receive direction, EPoC CNU and CLT shall support Idle Deletion process used by 10G-EPON.

Moved: Marek Hajduczenia
Second: Andrea Garavaglia

For: 31
Against: 0
Abstain: 7

Technical (>= 75%) Motion Passed

Motion #32

In the receive direction, EPoC CNU and CLT shall support Idle Insertion process used by 10G-EPON, as defined in IEEE Std 802.3-2012, 76.3.3.7, with the following changes:

- The value of FIFO_II_SIZE is TBD at this time and shall be set once FEC and PMD details are defined.

Moved: Marek Hajduczenia
Second: Alan Brown

For: 28
Against: 0
Abstain: 12

Technical (>= 75%) Motion Passed

Motion #33

In the transmit direction, EPoC CNU and CLT shall support Idle Insertion process used by 10G-EPON, as defined in IEEE Std 802.3-2012,77.2.2 (Figures 77-13 for CLT and 77-14 for CNU), with the following changes:

- Function FEC_Overhead shall be replaced with the function accounting for FEC and PHY overhead (tentative name: PMD_Overhead) once FEC and PMD details are defined.

Moved: Marek Hajduczenia
Second: Andrea Garavaglia

For: 28
Against: 0
Abstain: 10

Technical (>= 75%) Motion Passed

Motion #34

In the transmit direction, EPoC CNU and CLT shall support Idle Deletion process used by 10G-EPON, as defined in IEEE Std 802.3-2012, 76.3.2.1 with the following changes.

- Figure 76–9 (CLT operation) shall be modified to account for EPoC-specific FEC and PMD overhead, once these details are settled.
- Figure 76–10 (CNU operation) shall be modified to account for EPoC-specific FEC and PMD overhead, once these details are settled.

Moved: Marek Hajduczenia
Second: Andrea Garavaglia

For: 25
Against: 0
Abstain: 10

Technical (>= 75%) Motion Passed

Future Meetings

The Chair reviewed Future Meetings in Victoria, Geneva and York and polled those present regarding attendance.

The Chair asked if there was any new business, there was no response.

12:08 PM the meeting was adjourned.

Meeting Attendance

The following represents the meeting attendance as initialed in the attendance binder that was passed around the meeting each day. 55 individuals indicated their attendance for this meeting.

Lastname	Firstname	Affiliation	Tue	Wed	Thu
Agata	Akira	KDDI	X	X	X
Allard	Michel	Cogeco Cable	X	X	X
Anglade	Ony	Cox Communications	X	X	X
Arunarthi	Venkat	Cortina Systems	X	X	X
Awai	Hiromitsu	Sumitomo Electric	X		
Barr	David	Entropic Communications	X	X	X
Bist	Hemlata	Cadence Design Systems		X	X
Boyd	Ed	Broadcom	X	X	X
Brophy	Tim	Cisco		X	X
Brown	Alan	Aurora Networks	X	X	X
Cooper	William	Self	X	X	X
Dickinson	John	Bright House Networks	X	X	X
ElBakoury	Hesham	Huawei	X	X	X
Garavaglia	Andrea	Qualcomm	X	X	X
Guangseng	Wu	Huawei	X	X	X
Hajduczenia	Marek	ZTE Corp	X	X	X
Hanna	Charaf	ST Microelectronics	X	X	X
Hou	Victor	Broadcom	X	X	X
Jones	Doug	Comcast		X	
Kasturia	Sanjay	Qualcomm	X	X	X
Keasler	Bill	Ikanos Communications	X	X	X
Kelsen	Michael	Time Warner Cable	X	X	X
Kliger	Avi	Broadcom	X	X	
Knittle	Curtis	CableLabs	X	X	X
Ko	Dylan	Qualcomm	X	X	X
Kolze	Tom	Broadcom	X	X	X
LaBelle	Robert	IEEE	X		
Laubach	Mark	Broadcom	X	X	X
Lessard	Anore	Commscope	X	X	X
Lin	Rujian	Shanghai Luster Teraband Photonics	X	X	X
Mallette	Edwin	Bright House Networks	X	X	X
Montojo	Juan	Qualcomm	X	X	X
Montreuil	Leo	Broadcom	X	X	X
Noll	Kevin	Time Warner Cable	X	X	X
Peters	Michael	Sumitomo	X	X	X
Pietsch	Christian	Qualcomm	X	X	X
Powell	Bill	Alcatel-Lucent	X	X	X
Prodan	Rich	Broadcom	X	X	X
Qu	Tong	Cisco	X		

Lastname	Firstname	Affiliation	Tue	Wed	Thu
Rahman	Saifur	Comcast	X	X	X
Rahman	Syed	Huawei	X	X	X
Rajkotia	Purva	Qualcomm	X	X	
Remein	Duane	Huawei	X	X	X
Saitoh	Agi	KDDI	X	X	X
Schmitt	Matt	CableLabs	X	X	
Shen	BZ	Broadcom	X	X	X
Sherman	Matthew	BAE Systems	X	X	X
Staniec	Thomas	Cohere Networks	X	X	X
Suzuki	Ken-Ich	NTT	X	X	X
Suzuki	Shinji	Sumitomo Electric	X	X	X
Tanaka	Keiji	KDDI	X	X	X
Ulm	John	Motorola Mobility	X	X	X
Varanese	Nicola	Qualcomm	X	X	X
Wang	Allen	Huawei	X	X	
Weitzner	Andrew	Ikanos		X	X