

Meeting Minutes

Group: IEEE 802.3 NE-EPON Study Group

Event: 802.3 Interim meeting

Date: **From:** September 14, 2015 **To:** September 15, 2015

Location: Bonita Springs, Florida, USA

Minutes

14 September 2015

9:00 AM – The meeting was called to order by David Law.

Motion #1

Confirm Curtis as the Study Group Chair

Moved: Kevin Noll Second: Marek Hajduczenia

Procedural 75 % by rule

For: 20

Against: 0

Abstain: 0

Curtis Knittle assumed the chair. Introductions were made.

The chair completed the opening report.

Motion #2

Move to approve the Agenda.

Moved: Kevin Noll Second: Glen Kramer

Procedural Motion Passed by Voice without opposition

The Chair reviewed meeting decorum, the Study Group reflector & WEB page, IEEE Organization & by laws, Guidelines for IEEE-SA Meetings, IEEE process, .

Presentations and Discussion

11:50 AM – Recessed for lunch, reconvened at 1:30 PM

The Need For Higher Speed

Marek Hajduczenia

Bright House Networks

This presentation provided data to substantiate the need for a higher speed EPON solution. The primary driver for higher capacity EPON is business services. The cost of serving high capacity business customer with CWDM is cost prohibitive. NG-EPON should coexist with both 1G and 10G-EPON. The conclusion is that 10G-EPON is sufficient for the next 4-6 years but higher rate will be needed at that point, future speed enhancements should not require a new standards project.

Past, Present and Future Access Network Infrastructure Capacity Requirements for NG-EPON

Jorge Salinger

Comcast

This presentation provided data to substantiate the need for a higher speed EPON solution. Growth in capacity usage has been between 30-60% while peak or offered capacity growth has been higher. Three factors were discussed; Technology capacity, offered capacity and capacity usage. Network needs to support 2x offered capacity; projections indicate that in 2024 offered capacity will be about 50Gbps requiring a 100Gbps PON.

25G TDM PON overview

Ed Harstead

Alcatel-Lucent

This presentation illustrated technical feasibility for a higher rate serial PON; 25Gbps Duobinary specifically. The Duobinary signal can be generated using a low bandwidth laser and a higher bandwidth 3-level decision circuit in the receiver. Alternatively could use a 25 Gbps transmitter and lower bandwidth receiver. Another option for modulation would be to use PAM4. The four 25 Gbps streams could then be combined for a 100 Gbps solution.

NG_EPON Coexistence Considerations

Yuan Liquan

ZTE

This presentation review several factors that may need to be taken into account when considering coexistence including wavelength availability, optics cost, channel count co-propagation crosstalk and reflections.

WDM Coexistence For 1G/10G/NG-EPON

Marek Hajduczenia

Bright House Networks

This presentation proposed that WDM coexistence with both 1G and 10G-EPON be an objective. Coexistence with RFoG was considered optional, 10G-EPON primary and 1G-EPON secondary but highly desired, TDM coexistence was secondary be less important than WDM. These priorities were not universal among MSOs.

NG-EPON Wavelength Planning Considerations

Phil Miguelez

Comcast

This presentation proposed WDM coexistence with; RFoG, EPON/GPON, 10G-EPON/XGPON1. Another consideration is to keep the C-Band ITU DWDM Grid (Ch 20-59) free for uses other than EPON. Legacy G-EPON spectrum allocation is out of date and new technology is significantly better for both lasers and passive filters. Need to consider multi-wavelength issues (e.g., four wave mixing) and deployed fiber types (i.e., water peak). The project should also consider component commonality with other PON standards (i.e., XGPON2).

Consideration of "NG-EPON and Legacy EPON Coexistence"

Akio Tajima

NEC Corporation

This presentation examined some aspects of coexistence with 1G-EPON/10G-EPON and NG-EPON and introduced the possibly of using a fast optical switch for a variant of upstream TDM coexistence.

Next Generation EPON Objectives: Rate and extensibility

Eugene Dai

Cox Communications

This presentation argued against an objective for an extensible architecture.

Next Generation EPON Objectives: Rate and Co-existence

Eugene Dai

Cox Communications

This presentation suggested coexistence with only with most recent generation of EPON (10G-EPON only) and that "40G" EPON be a disruptive change (no backwards compatibility).

NG-EPON Architecture - Initial Thoughts Marek Hajduczenia

Bright House Networks

This presentation reviewed the 100G architecture and suggested some how it might be used to accommodate NG-EPON extensibility.

Objectives Discussion

Curtis Knittle

CableLabs

Open discussion on project objectives.

7:53 PM recessed for the day.

14 September 2015

8:00 AM The Chair called the meeting to order

Continued discussion on objectives.

NG-EPON CSD Proposal

Duane Remein

Huawei

This presentation proposed text for the project CSD. There was much discussion and wordsmithing resulting in final agreement.

Motion #3

Approve the CSD statements as proposed on slides 4 through 10 of ngepon_1509_remein_01b.pdf for the NG-EPON project.

Moved: Duane Remein Seconded: Jorge Salinger

Technical \geq 75% Passed

For: 21 Against: 0 Abstain: 2

Motion #4

Approve Project Authorization Request as written in ngepon_1509_par.pdf, with editorial license granted to 802.3 Chair

Moved: Paul Nikolich Seconded: Jorge Salinger

Technical \geq 75%

For: 25

Against: 0

Abstain: 0

Passed

Motion #5

Approve the objectives of NG-EPON project as written in ngepon_1509_objectives.pdf.

Moved: Glen Kramer Seconded: Duane Remein

Technical \geq 75%

For: 24 Against: 0 Abstain: 0

Passed

Motion #6

Study requests the Chair to present the PAR, CSD and objectives to the 802.3 Working Group, for approval to form a 100G-EPON Task Force at the November 2015 plenary.

Moved: Mark Laubach Seconded: Alan Brown

Technical \geq 75%

For: 24 Against: 0 Abstain: 0

Passed

Motion #7

Move to Adjourn

Moved: Kevin Noll Seconded: Marek Hajduczenia

Procedural > 50%

Passed by voice without opposition

12:15 PM Meeting was Adjourned

Attendees:

Bonita Springs, FL -- Next Gen EPON -- Meeting Sign In

	LAST NAME	FIRST NAME	ORGANIZATION	Attended 9/14	Attended 9/15
1.	Brown	Alan	CommScope	X	X
2.	Chang	Ayla	Huawei	X	X
3.	Colella	Barry	Source Photonics	X	X
4.	Dai	Eugene	Cox	X	X
5.	Dickinson	John	Bright House Networks	X	X
6.	ElBakoury	Hesham	Huawei	X	X
7.	Emmendorfer	Mike	Arris	X	X
8.	Hajduczenia	Marek	Bright House Networks	X	X
9.	Harstead	Ed	Alcatel-Lucent	X	X
10.	Knittle	Curtis	CableLabs	X	X
11.	Kolze	Tom	Broadcom	X	
12.	Kramer	Glen	Broadcom	X	X
13.	Laubach	Mark	Broadcom	X	X
14.	Lingle	Robert	OFS	X	X
15.	Migueluez	Phil	Comcast	X	X
16.	Nikolich	Paul	802 Chair	X	
17.	Noll	Kevin	Time Warner Cable	X	X
18.	Peters	Michael	Sumitomo	X	X
19.	Powell	Bill	Alcatel-Lucent	X	X
20.	Remein	Duane	Huawei	X	X
21.	Salinger	Jorge	Comcast	X	X
22.	Tajima	Akio	NEC	X	X
23.	Tucker	Ryan	Charter	X	X
24.	Umeda	Daisuke	Sumitomo	X	X
25.	Wolff	Peter	Time Warner Cable	X	X
26.	Wu	Karl	Luster	X	
27.	Xu	Yu	Huawei		X
28.	Yuan	Liquan	ZTE	X	