

Multi-Gig Automotive Ethernet Study Group (NGAUTO) Minutes

IEEE 802.3 Interim

Warren, MI

February 2017

February 21st 2017

- 8:01am Study Group Chair (Steven Carlson) starts meeting
- 8:02am Chair appoints Curtis Donahue as meeting secretary
- Curtis volunteered as secretary but was not in the room at 8:00am. Natalie Wienckowski acts as secretary until his arrival
- 8:05am Introductions of people around the room
- 8:10am **[Motion #1] Approve agenda**
- Moved by Ramin Shirani
 - Seconded by Alex Umnov
 - Passed by voice, without opposition
- 8:12am Chair asks if anyone is from the press
- No one acknowledges
- 8:14am Chair discusses goals for this meeting
- Develop a set of objectives for the project
 - Encouraged those who are interested to subscribe to the reflector
 - Lay the ground work for the next meeting
- 8:25am Chair reads "Participation in IEEE 802 Meetings" slide
- Emphasized everyone is to vote as an individual and not as they have been told to vote by someone else
 - Chair asked if Study Group has any questions
 - No one acknowledges
- 8:40am Role of secretary changes to Curtis Donahue
- 8:46am Chair read the "[Guidelines for IEEE-SA Meetings](#)" slide set and asked for questions. There were none.
- 9:00am [Ad Hoc Report](#) by George Zimmerman
- 9:12am [Thoughts on 802.3 Asymmetric Rates](#) by George Zimmerman
- 9:24am [NGAUTO - Objectives](#) by Stefan Buntz, presented over WebEx
- 10:00am The Chair calls for 20-minute break
- 10:20am Study Group reconvenes
- 10:24am [Multi-Gig Automotive PHY: TECHNICAL FEASIBILITY Challenges for 10G over Shielded Twisted Pair](#) by Tzahi Madgar
- 10:52am [PHY Perspective on NGAUTO](#) by Michael Leung
- 11:25am [PoDL for NGAUTO: Demonstration of Feasibility](#) by Andy Gardner, presented by George Zimmerman
- 11:38am [NGAuto channel options](#) by Thomas Müller
- 12:09pm Study Group breaks until 1:30pm
- 1:33pm Study Group reconvenes
- 1:34pm Chair discusses future IEEE 802.3 meetings

- 1:38pm **[Strawpoll] Will you be attending the March IEEE 802 Plenary meeting?**
- Result:

Yes – 16	No – 3	'Hopefully' – 5
----------	--------	-----------------
- 1:39pm **[Strawpoll] Will you be attending the May IEEE 802 Interim meeting?**
- Result:

Yes – 9	No – 3	'Hopefully' – 10
---------	--------	------------------
- 1:45pm [MGbps Link Segment open questions](#) by Michael Kaindl, presented over WebEx
- 2:05pm [Inline Connector Evaluation for NGAUTO](#) by Eric DiBiaso
- 2:20pm [Effect of Shielding on Cable RF Ingress Measurements](#) by Larry Cohen
- 3:10pm The Chair calls for 15-minute break
- 3:25pm Study Group reconvenes
- 3:26pm [Proposal to include optical fiber objective in Multi-gig Automotive Ethernet](#) by Mike Yadlowsky
- 4:39pm [Possible Objective Text](#) by George Zimmerman
- 4:58pm **[Strawpoll] Would you support adopting the modified 10 Gb/s objective text on slide 6 of zimmerman_3NGAUTO_03b_0217.pdf?**
- Result:

Yes – 19	No – 0	Abstain – 3
----------	--------	-------------
- 5:00pm **[Strawpoll] Would you support adopting the 10 Gb/s, 5 Gb/s, and 2.5 Gb/s objective text shown on slides 6, 7, and 5 respectively, in zimmerman_3NGAUTO_03b_0217.pdf?**
- Result:

Yes – 18	No – 1	Abstain – 2
----------	--------	-------------
- 5:05pm Study Group is recessed until 8:00am February 22nd

February 22nd 2017

- 8:25am Study Group reconvenes
- 8:25am Chair discusses IEEE plenary logistics and the Multi-Gig schedule at the March Plenary
- 8:30am [NGAUTO – Objectives Uses Cases + speed grades](#) by Helge Zinner, presented over WebEx
- 8:54am [Objectives Motions](#) by George Zimmerman
- 9:00am **[Motion #2] Move to modify the objective below as shown:**

Support operation at 10Gb/s in automotive environments (e.g., EMC, temperature) over single pair shielded balanced copper cabling.

- Moved by George Zimmerman
- Seconded by Natalie Wienckowski
- No discussion
- Vote:

Yes – 26	No – 0	Abstain – 1
----------	--------	-------------
- Motion passes

9:03am **[Motion #3] Move to adopt the objectives:**

Support data rates of 2.5 Gb/s, 5 Gb/s and 10 Gb/s at the MAC/PLS service interface.

Define the performance characteristics of an automotive link segment and an electrical PHY to support 2.5 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling (e.g., UTP, STQ, STP, SPP, Coax, or Twinax).

Define the performance characteristics of an automotive link segment and an electrical PHY to support 5 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling.

Define the performance characteristics of an automotive link segment and an electrical PHY to support 10 Gb/s point-to-point operation over this link segment supporting up to four inline connectors for at least 15m on at least one type of automotive cabling.

- Moved by George Zimmerman
- Seconded by Natalie Wienckowski
- Vote:

Yes – 25	No – 0	Abstain – 2
----------	--------	-------------
- Motion passes

9:07am **[Motion #4] Move to adopt the following objective:**

Support optional Clause 104 power over data lines on appropriate media.

- Moved by George Zimmerman
- Seconded by Natalie Wienckowski
- No discussion
- Vote:

Yes – 26	No – 0	Abstain – 1
----------	--------	-------------
- Motion passes

9:10am **[Motion #5] Motion to adjourn**

- Moved by Greg McSorley
- Seconded Ramin Shirani
- Motion passes by voice

Name	Email	Company/Affiliation	Tue	Wed
Mike Gardner	mike.gardner@molex.com	Molex	gfg	gfg
Sungjong Yoo	sungjong.yoo@molex.com	Molex	Harsh	Harsh
Patel Harsh	harsh.patel@molex.com	Molex	Harsh	Harsh
Brandon Dicks	Brandon.Dicks@rosenberger.de	Rosenberger	BD	BD
Christian Eckart	Christian.Eckart@rosenberger.de	Rosenberger	Christian	Christian
Thomas Muller	thomas.mueller@rosenberger.de	Rosenberger	Thomas	Thomas
Ali Angha	Ali.Angha@spirent.com	Spirent	Ali	Ali
Eric DiBiaso	eric.dibiaso@te.com	TE Connectivity	Eric	Eric
Jack Hsieh	jackhsieh98@yahoo.com	Transwitch	Jack	Jack
Curtis Donahue	cdonahue@iol.unh.edu	UNH IOL	Curtis	Curtis
Chee Kwan	chee.kwan@valens.com	Valens	Chee	Chee
John Marshall	johnm@valens.com	Valens	John	John
Tzahi Madgar	Madgar.Tzahi@valens.com	Valens	Tzahi	Tzahi
Matt Swell	MATT.SWELL@VALENS.COM	Valens	Matt	Matt
Ed Sutter	esutter@championcable.com	Champion Cable	Ed	Ed

Name	Email	Company/Affiliation	Tue	Wed
Greg McSorley	greg.mcsorley@amphenol-highspeed.com	Amphenol / Amphenol	GMCS	GMCS
Amir Bar-Niv	amir.barniv@aquantia.com	Aquantia / Aquantia	AB	AB
Larry Cohen	larry.cohen@aquantia.com	Aquantia / Aquantia	LC	LC
Ramin Shirani	ramin.shirani@aquantia.com	Aquantia / Aquantia	RSK	RSK
George Zimmerman	george@cmephyconsulting.com	CME/Aquantia/Comms/SGE/PTC	MS	MS
Alexander Umnov	umnova@corning.com	Corning Incorporated	AK	AK
Mike Yadlowsky	YadlowskMJ@corning.com	Corning Incorporated	AK	AK
Alan Miller	alan.miller@delphi.com	Delphi LLP	AK	AK
Larry Matola	laurence.matola@delphi.com	Delphi LLP	AK	AK
Mitch Singer	Mitch@d360v.com	Digital 360 Ventures, LLC / MLENS	MS	MS
Ajeva Gupta	agupta59@ford.com	Ford	AGS	A.G.
Doug Oliver	doliver@ford.com	Ford	DO	DO
Haysam Kadry	hkadry@ford.com	Ford	HK	HK
James Lawlis	jlawlis@ford.com	Ford	MEP	MEP
Mike Potts	mike.potts@gm.com	GM	MEP	MEP
Natalie Wienckowski	natalie.a.wienckowski@gm.com	GM	NW	NW
Steve Carlson	scarlson@hspdesign.com	HSD/Bosch	SC	SC
Malcolm Edwards	Malcolm@Innotechmanagement.com	Innotech Management Inc / Valensys	ME	ME
Rainer Pöhmerer	rainer.poeheimer@leoni.com	Leoni	RP	RP
John Bergen	jbergen@marvell.com	Marvell	JB	JB
Michael Leung	mleung@marvell.com	Marvell	ML	ML
Peter Wu	xingwu@marvell.com	Marvell	PW	PW
Christian Burmann	christian.burmann@microchip.com	Microchip Technology	RT	RT
Roger Taylor	Roger.Taylor@microchip.com	Microchip Technology	RT	RT