Minutes IEEE 802.3 Multigig Automotive Ethernet PHY SG AdHoc meeting NOVEMBER 23 (amended)

Prepared by George Zimmerman

Proposed Agenda:

1. Agenda/Admin: George Zimmerman, agenda_Mgigauto_112316adhoc.pdf
2. Study Group Primer: George Zimmerman, zimmerman_SGprimer_Mgigauto_112316adhoc.pdf
3. Multi-Gig Ethernet for Automotive Survey Results: Natalie Wienckowski (filename?)
4. Building the Objectives George Zimmerman, zimmerman_objectives_Mgigauto_112316adhoc.pdf

Presentations sent to NG-ECDC reflector (SG reflector not yet active), to be posted at ad hoc area when set up:

TBD

Agenda/Admin George Zimmerman:

Meeting began at 7:10am PT.

Presented file: agenda_Mgigauto_112316adhoc.pdf

1. Reviewed the Attendance information related to the ad hoc.
2. Displayed pre-par patent slide deck, and reviewed it.
3. Reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes.
4. Reviewed chartering motion, ground rules, and some background on Study Groups.

Presentations/Discussion:

Chair's Comments & Discussion Steve Carlson, Acting Chair, Multigig Automotive Ethernet PHY Study Group (no slides)

- Steve introduced the study group, and the process
- Question was asked whether the SG scope might include powering – Steve answered that powering may be considered where appropriate to the medium and the application.

Study Group Primer: George Zimmerman, CME Consulting

Presented file: zimmerman_SGprimer_Mgigauto_112316adhoc.pdf

- Presented an overview of the study group process, objectives, CSDs (5 criteria) and PAR.

Multi-Gig Ethernet for Automotive Survey Results: Natalie Wienckowski, General Motors North America

Presented file: Multi-Gig Ethernet for Automotive Survey Results.pdf

- Presented results of a survey performed prior to the formation of the study group to determine the interests of OEMs, Tier 1 integrators, PHY vendors and automotive harness providers in speeds and applications of multi-gigabit Ethernet.
- Responses indicated a wide range of interest in different speeds and cable types. Most interest was in 10Gbps rates, but there was also interest in 2.5Gbps and 5Gbps. 4Gbps was seen as being of very little value.
- Questions:
    - Q: Was 10Gbps the maximum speed requested?
    - A: 10Gbps was the maximum explicitly called out on the survey, but at least one respondent indicated 8 Gbps would be desirable and one indicated 12 Gbps would be desirable.
- A variety of media were considered. 50% of OEMs thought fiber would be acceptable
- Question/comment
    - Carlos Parda offered a future presentation on how optical (POF) connectors might be integrated into an automotive connector in a space-efficient way.
- Question:
    - Q: Anything additional on other requirements, e.g., latency, as this might impact PHY vendors answers on issues such as maximum # of levels tolerable for EMC.
    - A: 20msec was considered the maximum delay, based on video frame data, PHY latency of 200usec might be acceptable.
        - Legacy vs new.
        - TIA/ISO vs other organizations (e.g. IEC 65C JWG 10). Let's make sure we identify the set of major groups and set up the appropriate liaisons.
            - Presentation on the set of groups involved – Ludwig to work with Alan Flatman and others to prepare overview presentation.

Building the Objectives: George Zimmerman, CME Consulting

Presented file: zimmerman_objectives_Mgigauto_112316adhoc.pdf

- Presented information on the usual form of PHY objectives, and some of the decisions to be made.
- Presenter noted that in several places he had slipped and assumed single-pair copper media – this was not appropriate.
- Question:
    - Q: What about interaction with other standards, such as TSN?
    - A: The group should consider which other standards we would not want to preclude, and seek presentations from experts on those, and, if necessary, liaise with the appropriate groups for information.
    - Q: What about compatibility with 802.3br – Interspersed Express Traffic?
    - A: 802.3br should be transparent to a phy-layer protocol, at least in a full-duplex point-to-point application. However, we may wish to consider this further as we develop our objectives, and whether we need a "do not preclude" objective.

- Participants were encouraged to build on these objectives and think of wording as they presented technical content for the SG.

Closing Business: George Zimmerman, CME Consulting

The next ad hoc meeting will be held on December 7 at the same time (7-9am pacific time). Webex information to be sent to the ECDC and study group reflector (when set up).

Meeting closed – 9:04 am PT

Attendees (from Webex + emails)

First Name	Last Name	Affiliation
Greg	Destexhe	TechPoint Consulting/?
Mohammad	Ahmed	TE
Shogo	Akasaki	Denso
Frank	Baehren	Intel
Mark	Bradley	Corning
David	Brandt	Rockwell Automation
Phillip	Brownlee	TDK
Joe	Byrne	NXP
Steve	Carlson	High Speed Design
Mandeep	Chadha	Microsemi
Li-Chung	Chen	Realtek
Mabud	Choudhury	OFS
Eric	DiBiaso	TE
John	Earnhardt	OFS
Jörn	Edlich	CETECOM, GmBH
Alexander	Felgenhauer	Yazaki Europe
Peter	Fellmeth	Vector
Matthias	Fritsche	Harting
Mike	Gardner	Molex
Hossein	Ghafarian	TU-Berlin
Volker	Goetzfried	Broadcom
Craig	Gunther	Harman
Rita	Horner	Synopsys
Matthias	Jaenecke	Yazaki Europe
Peter	Jones	Cisco
dongok	kim	Hyundai
Andreas	Kuerzdoerfer	Murata
David	Law	HP Enterprise
Ken	Ly	Cisco
Darko	Marinac	Yazaki Europe
Brett	McClellan	Marvell

Rich	Mellitz	Samtec
Wes	Mir	Delphi
Thomas	Mueller	Rosenberger
Doug	Oliver	Ford
Carlos	Pardo	KDPOF
Richard	Petrie	DisplayLink
Vimalli	Raman	Yazaki Europe
Dick	Roy	?
Dieter	Schicketanz	Consultant/?
Norbert	Schuhmann	Fraunhofer
Nish	Takeshi	Yeu
Burkhard	Triess	ETAS
Alex	Umnov	Corning
Natalie	Wienckowski	General Motors
Daniel	Wiesmayer	DRAEXLMAIER Group
Wolfgang	Wiewesiek	Cypress
Bill	Wolfe	TDK
Peter	Wu	Marvell
George	Zimmerman	CME Consulting / Aquantia, Commscope & LTC
Harald	Zweck	Infineon