

# Minutes IEEE 802.3cg 10SPE TF AdHoc meeting 29 March 2017

Prepared by Peter Jones

## Proposed Agenda:

1. Agenda/Admin Peter Jones

## Presentations posted at:

<http://www.ieee802.org/3/cg/public/adhoc/index.html>

## Agenda/Admin Peter Jones:

Meeting began at 7:05am PT.

1. Reviewed the Attendance information related to the ad hoc.
2. Displayed post-par slide deck, reviewed patent policy, participation conditions.
  - a. Made potentially essential patents call – no one responded.
3. Reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes.
4. Presented the proposed agenda.
  - a. Approved without objection.

## Presentations/Discussion.

### Start and Administrivia Peter Jones Cisco

- Q about IEEE 802 Participation slide
  - WG meetings vs sub WG meetings (e.g. ad hoc, interim, etc)
  - All need to be covered – David Law to take up with 802 EC.

### Chair's Comments George Zimmerman CME

- Good meeting in Vancouver, let's keep the momentum going.
  - 1km link segment baseline transmission parameters adopted
  - Measurement program for environmental noise sources discussed
  - Progress made on PHY baselines for 1km link segment (today's 2<sup>nd</sup> presentation builds on this)
  - Progress made on 'what we need to know' to move forward on multi-drop (today's 1<sup>st</sup> presentation builds on this)
  - Progress made on powering use case definition.

### 10SPE automotive PHY multidrop topology proposals Stefan Buntz Daimler AG

- Passive linear topologies

- Q about min and max distance between two nodes/connections. Needed to be able to fill out the parametric modeling.
  - Initial Thought – min 500mm, approaching max overall length
- Q about split of reaches, how do the short lengths relate to the total length, presenter explained on call, follow on discussion took place.
- Q about how these topologies fit into the whole car network.
  - Should be covered elsewhere. There may be zone (physical area) or domain (type of sensor) multidrop sub-networks.
- Q about max numbers shown – is this showing expected max nodes in a passive linear or star topology.
  - These slides show the currently expected maximums based on presenter’s point of view.
- Passive star topologies
  - Worst case cabling – max 56 m total. Does not match the 15 m reach, regardless of max node-to-node distance.
  - Normal practice question with vehicle construction, is the harness fully populated without the end-points, or is the harness customized for the expected end-points. Do we have dangling cables? Where is the termination?
  - Comment from Presenter – need to simplify network design rules to reduce overhead in car design.
    - Ask to define a strawman of what the Presenter would like to build so we can think a little more about the physical constraints and the impact on the standard & PHY design.
- Conclusion
  - Comments about needing to keep situations simple, we are going from 1D (linear – point-to-point) to 2 D (linear multidrop) and 3D (star multidrop).
  - The need for this? Driven by cost (PHYs, switch, ECU, cabling, etc).
  - Q from Presenter about powering devices in multidrop. PoE and PODL currently are only P2P. P2MP powering would need additional work to these standards (in scope for 802.3cg).
  - Comment from David Brandt – he presented on the industrial in-cabinet multidrop requirements in Vancouver, these exceed what’s show in this presentation, he will send note to reflector referencing his Vancouver presentation.

## Simulations with Tonal Interference

OISÍN Ó CUANACHÁIN

ADI

- Performance at 1000m With 75mVpkpk Interferer
  - Clarification about impact. OK to have loss of packets for short period (e.g. 30-40 msec),. Most protocols can afford to lose 2 out of 3. SteffanG to drop a note to the reflector on what he sees as the acceptable impact.
  - Interest in effect of pure vs mixed tones. Answer seems to be 1KHz for AM modulation.

- Discussion of details of transients and impact over time.

**Plan for next meeting      George Zimmerman   CME**

- Will initial any reflector thread on multidrop questions.
- Questions for Oisin and modelling folks to ask – what are the big unknowns for PHY design?
  - Other potential sources of noise? Measurement program out of Vancouver is to gather data on this.
- Q about indirect light strikes, an issue in avionics. IEC covers this with surge testing. David Brandt to send executive summary to reflector.
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**Open Discussion**

- 10SPE Powering Use Cases Survey
  - Chris is working on a survey for powering use cases (e.g. PSEs, PDs, etc), and would like to be contacted by anyone interested in helping form the questions.
  - Once we finalize the questions we want, need to get the survey reviewed/approved by IEEE. David Law will help with the process.

Meeting closed – 8:42am PT

**Attendees (from Webex + emails)**

Name	Affiliation	Attended 3/29
Alexander Felgenhauer	Yazaki	y
Arkadiy Peker	Microsemi	y
Brett McClellan	Marvell	y
Brian Franchuck	Emerson	y
Chris Diminico	MC Communications/Panduit	y
Chad Jones	Cisco	y
Claude Gauthier	OmniPHY	y
Dale Borgeson	Emerson	y
Dave Hess	CordData	y
David Brandt	Rockwell Automation	y
David Law	HPE	y
Dayin Xu	Rockwell Automation	y
Dieter Schicketanz	Consultant, Reutlingen University	y
Dominik Dorner	Leoni	y
Eric DiBiaso	TE	y
Geoff Thompson	Independent	y

George Zimmerman	CME Consulting / Commscope, LTC & Aquantia	y
Harsh Patel	Molex	y
Heath Stewart	Linear Technology	y
Helge Zinner	Continental Corp.	y
Henry Muyschondt	Microchip	y
Jean Picard	TI	y
Jim Bauer	Marvell	y
Laura Schweitz	Turck	y
Ludwig Winkel	Siemens	y
Maris Graube	Relcom Inc.	y
Markus Wucher	Endress+Hauser	y
Masood Shariff	CommScope	y
Matthias Fritsche	HARTING Electronics GmbH	y
Matthias Jaenecke	Yazaki	y
Mick McCarthy	Analog Devices	y
Mohammad Ahmed	TE	y
Oisín Ó Cuanacháin	Analog Devices	y
Peter Jones	Cisco	y
Peter Wu	Marvell	y
piergiorgio	Canovatech	y
Stefan Buntz	Daimler	y
Steffen Grabber	Pepperl+Fuchs	y
Sujan Pandey	NXP	y
Tobias Belitz	Renesas	y
Ulrich Nowack	Delphi	y
Victor Berglund	MicroSemi	y
Vimalli Raman	Yazaki	y
Attendee count		43