Minutes IEEE 802.3 10SPE SG AdHoc meeting November 30 2016

Prepared by Peter Jones

Proposed Agenda:

1.   Agenda/Admin   Peter Jones

Presentations posted at:

http://www.ieee802.org/3/10SPE/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.   Noted that we will become 802.3cg in December. The reflector will stay the same, but we will get a new WebPage for the TF, and we will link the TF and SG pages together.
3.   Displayed and read pre-par patent slide deck.
4.   Reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes.
5.   Asked for approval of November 16 2016 minutes?
    a.   Approved with license to fix the URL.
6.   Presented the proposed agenda.
    a.   Approved without objection.

Presentations/Discussion.

"Multiaccess in Ethernet Passive Optical Networks (EPON)"   Marek Hajduczenia   Charter

- Presenter covered a detailed overview of EPON architecture and technical components.
- Questions and Answers
    o   ONU's (leaves) talk to each other via the OLT (root).
    o   Some questions about time quanta (16ns), this is based on the link speed and reach.
    o   ONUs can be built small enough to be packaged into an SFP form factor.
    o   Topology is quick flexible, depends on fiber plant, but the use of passive splitters enables lots of flexibility.
    o   Operators can provide both guaranteed and opportunistic services.
    o   DBA – the messages are standardized, but the exact behavior of the DBA is not defined. Most system behave about the same way, but with vendor differentiation. There is significant variation between carriers on how services are defined/delivered.

- OLT has most of the DBA brains – (really the DBA master), and the ONU is really the slave/agent. ONU can be made very simple.
  - ONU addressing – uses IDs in the preamble.
  - Supports native multicast (group and broadcast).
  - 1588/802.1AS supported in these systems. Determinism of transmission can be provided.
  - SW vs HW – 1G was running in SW, after that moved to HW, but this was a large HW footprint to support 1G with SW forwarding.

Proposal for 1000m link specification   Dieter Schicketanz   Reutlingen University

- Questions and Answers
  - Q about 45 Ohm DC loop resistance – challenging for powering systems. A – that's what the cable is.
  - AWG 18 also gets worse with higher temperature.
  - Comment - E1/E2/E3 should all be 57dB, Presenter acknowledges the point.
  - Q 45 Ohm at 20C, maybe 40% higher at temp? – this was a measure value with 10% pad. Powered links more likely to be AWG 14 with lower loop resistance.
  - Long field bus links more likely to be AWG 16 for powered links, AWG 18 not so common. Looking for presentations about what is currently deployed in common cases, we expect that this will not all be the same. Be clear about the intended application. Be clear if defining an "installed based" case, or a "new case".
    - Use the reflector to start discussions and find collaborators.

Common terms and parameters   Claude R. Gauthier   OmniPHY

- This has started with industrial, automotive needs to be added.
- Echo cancellation – tradeoffs with returns loss specs.
- Diagnostics – need to understand what's currently provided, and what is desirable in our different target environments. Monitoring system performance and being able to detect/report the degradation before failure could be important.
- Autoneg – how important and which environments? Can we get a presentation about how AN works in 1000BASE-T1, would this support our long links?
- This is a useful doc, becomes a living list, will be on WebSite, we will figure out how to control/update as we go though. SG/TF Chair has this on his to-do list.

Plan for next meeting   George Zimmerman CME

- We should be a task force in two weeks, which means we can look more seriously at technical proposals.
- Look out for email about new website.

- Looking for information about constraints and requirements for powered systems.
- Point to multipoint – what is expected, need more information soon so we can evaluate how to proceed.
  - Something like EPON?
  - CSMA/CD would have different issues.
- Autoneg is also a subject we need to think about.
- Diagnostics – what do we need here?
- For powering and multidrop
  - Need clarity on real requirements and possible ways to address them.
  - Evaluate technical proposals against environments and use cases.

Meeting closed – 9:00 PT

Attendees (from Webex + emails)

Name	Affiliation	attended 11/30
Alexander Felgenhauer	Yazaki	y
Bob Lounsbury	Rockwell Automation	y
Brian Franchuck	Emerson	y
Brett McClellan	Marvell	y
Chad Jones	Cisco	y
Ching-Yao Su	Realtek	y
Christian Boiger	b-plus GmbH	y
Claude Gauthier	OmniPHY	y
Dale Borgeson	Emerson	y
David Brandt	Rockwell Automation	y
David Law	HPE	y
Dayin Xu	Rockwell Automation	y
Dick Caro	CMC Associates	y
Dieter Schicketanz	Consultant, Reutlingen University	y
George Zimmerman	CME Consulting / Commscope, LTC & Aquantia	y
Heath Stewart	Linear Technology	y
Jean Picard	TI	y
Jens Gottron	Siemens	y
Jim Bauer	Marvell	y
Jim Bird	TI	y
Kirsten Matheus	BMW	y

Laura Schweitz	Turck	y
Marek Hajduczenia	Charter	y
Mario Traeber	Intel	y
Maris Graube	Relcom Inc.	y
Markus Wucher	Endress+Hauser	y
Masood Shariff	CommScope	y
Matthias Fritsche	HARTING Electronics GmbH	y
Mick McCarthy	Analog Devices	y
Oisín Ó Cuanacháin	Analog Devices	y
Peter Jones	Cisco	y
Phillip Brownele	TDK	y
Steffen Grabber	Pepperl+Fuchs	y
Tobias Belitz	Renesas	y
Ulrich Nowack	Delphi	y
Attendee count		35