Minutes P802.3bz Architecture AdHoc meeting May 5th 2015

Prepared by Peter Jones

Proposed Agenda:

1. Agenda/Admin Peter Jones

Presentations posted at:

http://grouper.ieee.org/groups/802/3/NGEBASET/public/archadhoc/index.html

Agenda/Admin Peter Jones:

Meeting began at 9:05am pst

1. Reviewed the Attendance information related to the ad hoc.
2. Asked if we needed to review patent policy, no one requested review.
3. Reminded participants to indicate full names and employer/affiliation correctly for the meeting minutes.
4. Asked for corrections of draft minutes April 28th, 2015 or approval
   a. Approved without objection
5. Presented the proposed agenda.
   a. Approved without objection
6. Other admin
   a. Approval of minutes for 4/14 and 4/21
      i. Chair and presenter resolved disagreements on minutes
      ii. Updated minutes shown to meeting
      iii. Updated Minutes for 4/14 and 4/21 approved without objection

Presentations/Discussion.

1000BASE-T/10GBASE-T Time-To-Link and Some Implications for 2.5/5GBASE-T
Pete Cibula - Intel

- *Detailed discussion notes courtesy of presenter*
- The presenter introduced the contribution, which describes time-to-link and its importance to the end-user and outlines some factors that influence link times. The presenter suggests that 2.5/5GBASE-T autonegotiation and startup times be improved to be more aligned with end-user expectations, and that time-to-link be considered when developing and evaluating 2.5/5GBASE-T autonegotiation and startup/training proposals.
- It was noted that time-to-link behavior has both repeatable and statistical components. The measurement is repeatable in that specific measurement configurations (end points, interconnects, and cabling) will provide repeatable results. The measurement is statistical in that there is a distribution of measured link times that typically shows more variability with

more challenging configurations (e.g. very short or very long channels, “transition points” such as PBO transitions, etc.).

- Participants noted that the measured autonegotiation times presented are quite a bit longer than that required to complete base page and next page exchanges. Several factors that increase the measured TTL were identified, including waiting for the break_link_timer to expire and the time required to resolve MDI/MDIX.
- Participants asked if lower-level details of the autonegotiation and training phases are available to better understand some of the factors contributing to TTL. The answer is a qualified yes; many PHY implementers have this capability, which is typically used when investigating and resolving interoperability issues.
- Participants discussed the implications of supporting multiple speeds and the consequences of "downshifting" from, for example, 10Gb to 5Gb to 2.5Gb to 1Gb. It was noted that the autonegotiation mechanism was not and is not intended to be used as a mechanism to converge on a channel solution, and that speed resolution behavior has been left out-of-scope in 802.3 standards as an area of innovation for implementers.
- The associated question of what is defined/addressed in the standard vs. what is defined/addressed elsewhere was identified as an area for further study, with participants noting the challenge presented by PHYs with many (interpreted as more than 3 or 4) capabilities.

Supporting Materials for 802.3bz Layers Auto-negotiation Proposal
Yong Kim & Pat Thaler Broadcom

- Slide 4 – “Unwanted “Branch” feedback “
    - NP/XNP coding trick for 10GBASE-T (bits in both pages) so 1G/10G made sense and was fast. – Can’t play the same trick twice.
    - Goal was to only have one XNP.
- Slide 9 – “What about LLDP?”
    - Have we overloaded AN, and things could/should move to LLDP?
    - Q about if PoE experience with using LLDP is relevant here.
- Slide 11 – “So what are [more] options within CL28?”
    - Re-using A4 bit as a part of the XNP encoding avoids the “unwanted-branch” when used for new XNP message code 12. But presenter also commented that this is valuable and should not be used-up for merely extending a new message code.
- Slide 14 – “Summary”
    - Comment/discussion about page exchange time quoted in summary (changing from 0.2s to 0.3s).
        - If 10GBT average “Time To Link” is ~7 seconds (worst case 16.4), let’s make sure we understand where the time is being spent. Only optimize what really matters.

Other Discussion/Observations:

- Pat Thaler (802.3 IET editor) asked any 802.3 voters to reconsider any abstain votes on P802.3br, so that P802.3br Interspersing Express Traffic Task Force can keep making progress.

Meeting closed – *10:20am pst*

Attendees (from Webex + emails)

Name	Affiliation	Attended 5/5
Amrik Bains	Cisco	n
Anna An	Foxconn	n
Arthur Lee	Mediatek	n
Bob Wagner	Panduit	n
Brett McClellan	Marvell	y
Brian Bucmeier	Bel Fuse	n
Brian Jaroszewski	Vitesse	n
Bryan Moffitt	Commscope	y
Carrie Higbi	Siemom	
Ching-Yao Su	Reaktek	y
Chris Diminico	MC Communications	n
Clark Carty	Cisco	y
Dave Hess	Cord Data	n
Dave Jeskey	Sentinel Connector	n
David Chalupsky	Intel	y
David Chen	Nokia	n
David Estes	Spirent	y
David Law	HP	n
David Tremblay	HP	n
Derek Cassidy	BT	n
Dieter Schicketanz	Leoni Kerpen/ University of Reutlingen	y
Duane Remein	Huawei	y
Ed Gastle	JDSU	n
Evan Lau	General Cable	n
George Zimmerman	CME - Commscope, Aquantia, Linear tech	y
German Feyh	Broadcom	n
Greg McSorley	Amphenol	n
Hans Lackner	QoSCom GmbH	n

Hossein Sedarat	Aquantia	y
Howard Frazier	Broadcom	y
Jacky Chang	HP	y
Jerome-Yu	Realtek	y
Jim Graba	Broadcom	n
Jing Fang	Marvell	n
John D'Ambrosia	Dell	n
Kaku Shinkyo	Allied Telesis	n
Kamal Dalmia	Aquantia	y
Keng Hua Chuang	HP	y
Lars Lindskov Pedersen	Delta	n
Masood Shariff	Commscope	y
Marcel Medina	Spirent	n
Matt Brown	APM	n
Mike Good	Berk-Tek, LLC	y
Neven Pischl	Broadcom	n
Pat Thaler	Broadcom	y
Paul Freeburn	Avaya	y
Paul Hathaway	Foxconn	n
Paul Langner	Aquantia	n
Paul Mooney	Sprirent	y
Paul VANDERLAAN	Berk-Tek	y
Pete Cibula	Intel	y
Peter Jones	Cisco	y
Peter Wu	Marvell	y
Ramin Farjad	Aquantia	n
Ramin Shirani	Aquantia	y
Rick Rabinovich	Alcatel-Lucent	y
Ron Cates	Marvell	n
Ron Tellas	Panduit	n
Shaouha	?	y
Simon Assouad	Broadcom	n
Scott Kipp	Brocade	n
Steve Sedio	Foxconn	n
Theodore Brillhart	Fluke	n
Thomas Brown	Vitesse	n
Thuyen Dinh	Pulse	y
Todd Herman	Commscope	n
Tom Souvignier	Broadcom	y
Tooraj Esmailian	Broadcom	n
Victor Renteria	Bel Fuse	n

Vineet Salunke	Cisco	n
William BeBorde	Intel	y
William Lo	Marvell	y
Yong Kim	Broadcom	y
Attendee count		32