Minutes P802.3bz Architecture AdHoc meeting June 23rd

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 9:03am 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 June 16 2015 or approval
   a. Approved without objection.
5. Presented the proposed agenda.
   a. Approved without objection.

Presentations/Discussion.

Editors updates on 802.3bz draft 0.1 – George Zimmerman

- EEE UPDATE
  - LPI scaled with bit time – based on 802.3bq – need comments/presentations to change.
  - Latency specifications are TBD.

Transmit Power Back-off (PBO) for 2.5G and 5G BASE-T – Hossein Sedarat, Alireza Razavi

- "Alien Crosstalk Models for Cat6/5e" slide
  - Clarification – this is really based on link segment definition from 10GBASE-T.
- "Salz SNR: 5G/2.5G over 100m – No PBO" slide
  - Clarification of what's changing? A: Victim is always 100M, Aggressors varying in speed/length.
- "SalzSNR: 1G over 100m" slide
  - Without PBO, 1G victim is safe from 2.5G/5G, 1G aggressor is worse than 2.5G/5G.
- "Optimal PBO and Crosstalk Offset" slide
  - Q about SNR bound? A – See previous slide.
  - Q about what's changing? A – This is result of simulation against set of cases.
  - Q about optimization goals? A – Need to consider mixed rates in the bundle, as either aggressor or victim.

    - Q – Crosstalk offset vs SNR bound? A – Need PBO to support max amount of crosstalk. Follow up – may not need fixed limit for calculation, may be able to measure.
    - Statement – 10GBASE-T didn't really know the crosstalk, but the problem was simpler because of only considering single rate/cable type.
    - Q – Are the PBO results measured on implementation (to confirm the analysis and validate)? A – this is being used in field and producing reasonable performance.
- "PBO: 2 dB Steps"
    - Q about x axis lengths, aggressor or victim? A- Always aggressor.
- "PBO Table"
    - Receive power is what really matters, Cable Length is really inferred.
- General Qs:
    - What if the bundle has cat6a & 10GBASE-T, either as aggressor or victim? A- If aggressor is 10GBASE-T it's ok. More work to look for 10GBASE-T as victim (looked at numbers a long time ago). Follow-up – what about 10GBASE-T over Cat5e/6 (shorter distances). Discussion follows. By definition, 10GBASE-T should be running in cable plant that meets spec.
    - How is alien FEXT calculated? Shown in slide 8 & considering insertion loss from foreign aggressor to victim.
    - Any conclusions on startup PBO for 2.5G/5G? A – 8dB looks good.
    - Q about 1GBASE-T, ANEXT & CAT-5e, what's reality in the field? Not sure why 1G defined ANEXT limit line but not AFEXT. Guess is that regardless what standard says, we don't see a lot of failing links, so we don't have a problem. Long discussion.
    - Follow up about 15db offset, how does this stack up with use case adHoc? A – Presentation shows technique to maximize crosstalk offset, result is 2.5G ranging 18-26dB, 5G ranging 12-19db.
    - What about shorter than ~20 meters? A – didn't seem to add value to show results for shorter cable lengths.
    - What about victim length? A – looking at 100M limit line for cat5e (should be worst case).
    - Follow up – more presos coming about how to qualify a cable plant, looking at insertion loss (not length).
    - Again – will have to deal with alien crosstalk above current Cat5e specs.

Other Discussion/Observations:

- Editor – d0.1 is out; major technical items to work on are below. Today's presentation directly addresses the PBO work we need to get done.
    - PBO
    - Link segment

Meeting closed – 10:40 am PST

Attendees (from Webex + emails)

Name	Affiliation	Attended 6/23
Amrik Bains	Cisco	y
Brett McClellan	Marvell	y
Bryan Moffitt	Commscope	y
Chris Diminico	MC Communications	y
Clark Carty	Cisco	y
Dave Hess	Cord Data	y
David Chalupsky	Intel	y
Dieter Schicketanz	Leoni Kerpen/ University of Reutlingen	y
Duane Remein	Huawei	y
Geoffrey Chacon	HP	y
George Zimmerman	CME - Commscope, Aquantia, Linear tech	y
German Feyh	Broadcom	y
Hossein Sedarat	Aquantia	y
Jacky Chang	HP	y
Jerome-Yu	Realtek	y
Keng Hua Chuang	HP	y
Mark Gravel	HP	Y
Masood Shariff	Commscope	y
Mike Klempa	UNH-IOL	y
Paul VANDERLAAN	Berk-Tek	y
Pete Cibula	Intel	y
Peter Jones	Cisco	y
Peter Wu	Marvell	y
Ramin Farjad	Aquantia	y
Ramin Shirani	Aquantia	y
Rick Rabinovich	ALE	y
Ron Tellas	Panduit	y
Steve Sedio	Foxconn	y
Theodore Brillhart	Fluke	y
Thuyen Dinh	Pulse	y
Victor Renteria	Bel Fuse	y
Yong Kim	Broadcom	y
Attendee count		32