Energy Efficient Ethernet Study Group Meeting Minutes

September-11-2007

Attendees:

Name	Employer	Affiliation
Mike Bennett	LBNL	LBNL
Chris Diminico	MC Communications	Solarfare
Robert Grow	Intel	Intel
Mandeep Chadha	Vitesse	Vitesse
Goeff Thompson	Nortel	Nortel
Glenn Parsons	Nortel	Nortel
Steve Carlson	HSD	HSD
Howard Frazier	Broadcom Corporation	Broadcom Corporation
Wael Diab	Broadcom Corporation	Broadcom Corporation
Yongbum Kim	Broadcom Corporation	Broadcom Corporation
Brian Holden	PMC-Sierra	PMC-Sierra
David Law	3Com	3Com
Dan Dove	Procurve	Procurve
Joseph Chou	Real Communications	Realtek

Meeting convened at 1:30 PM KST

- No motion to approve minutes from July meeting as they have not yet been received
- Chair agreed to record meeting minutes for this meeting

Agenda & General information By – Mike Bennett See – agenda_2_0907.pdf

- Chair read slide 1 of the patent slides, allowing time for meeting participants to read slides 2, 3, 4 and 5.
- Chair asked for feedback from the group on a draft timeline for the project. Comments were made suggesting additional milestones, such as last new feature, be shown, to be careful regarding balloting over the holidays, and that the time allocated to achieving a baseline proposal may be too aggressive.

Title- Subset PHY: Cost and Power Analysis By- Wael William Diab See- diab_2_0907.pdf

Discusson:

- The goal of the presentation is to connect the proposals to power savings data.
- There was a question regarding whether or not using the lower 4 PAM levels would save any more power than using a lower resolution A-to-D. No one in the room knew but agreed it was something we should look at.
- There was a comment that using a higher voltage would waste power due to current and resistance losses.
- There was a comment that we need to look further into the power savings
- There could be one PHY with multiple stages of subsets
 - o Could be a three-speed PHY with 1000BASE-T as the highest speed PHY
 - o Could be a four-speed PHY with 10GBASE-T as the highest speed PHY
- We need to understand the trade-offs
- Home market will not likely need more than 1000BASE-T
 - There was some disagreement on this comment, based on the assumptions that something built using 10GBASE-T would cost more than something built using 1000BASE-T
- Looking for input from others on the power calculation spreadsheet presented in diab_2_0907.pdf

Title- EEE Applicability to Optical PHYs By- Brian Holden for Onn Haran See- haran_1_0907.pdf

Discussion:

- This is not what we have been calling "0BASE-T"
- Quite a bit of discussion on duty cycle for current model on PON and how that would apply to optical PHYs for EEE
- Question on what would happened to link state on point-to-point optical Ethernet links if the transmitter were turned off to save energy
 - o The link state would change to down − not sure how we would resolve this. It would require study.
- Comment that this might be of some benefit for redundant optical links, however the market potential for this has not yet been demonstrated
- More comments were made suggesting that if a new objective were desired, more work has to be done to demonstrate the 5 criteria have been met for EEE on optical PHYs

Break at 2:50 PM Reconvene at 3:10 PM Title-Packet loss in protocol based speed change By-David Law, 3Com See-Law_1_0907 (posted at 4:08 PM, 2007-09-11)

Discussion:

- If we use a frame-based protocol, how do we deal with packet loss? We could use timers; keep sending request frames, etc.
- We should consider alternatives to frame-based protocol such as physical layer signaling
 - o Code words won't work with 10BASE-T
- There was an additional discussion on finding a more accurate way to describe the variations on "0BASE-T"

Title-802.1 and Energy Efficient Ethernet By-Bob Grow, Intel See-Grow_1_0907 (posted at 4:08 PM, 2007-09-11)

Discussion:

- Feedback received from 802.1 based on a brief presentation given by Bob at their meeting in Stockholm
 - o Folks generally support the idea of EEE
 - o The faster the transition time the better. 10 msec is way too long, 1 msec is better, and less than 1 msec is desirable
 - o Bob suggested a joint meeting with 802.1 at the plenary in November
 - We need to be careful that we don't lose consensus
 - We should ask them questions
 - We need to think about how to communicate with upper layers
 - Service interface? SNMP notifications
 - Some folks do not like the idea of using the service interface
 - Will 802.1 work on the control policy?
 - We need to share with 802.1 the things we have and have not agreed to do, let them know what we're thinking
 - We need to make sure we are working together before they get too far along with AVB

Energy Efficient Ethernet Study Group Meeting Minutes

September-12-2007

Attendees:

Name	Employer	Affiliation
Mike Bennett	LBNL	LBNL
Ching-Yun Chien	ITRI	ITRI
Ilango Ganga	Intel	Intel
Robert Grow	Intel	Intel
Bill Delveaux	Cisco	Cisco
Mandeep Chadha	Vitesse	Vitesse
Goeff Thompson	Nortel	Nortel
Glenn Parsons	Nortel	Nortel
Steve Carlson	HSD	HSD
Howard Frazier	Broadcom Corporation	Broadcom Corporation
Wael Diab	Broadcom Corporation	Broadcom Corporation
David Law	3Com	3Com
Joseph Chou	Real Communications	Realtek

Meeting reconvened at 9:30 AM on September 12, 2007

Group discussion - topic: 0BASE-T

Discussion:

- Need definitions to replace the use of 0BASE-T
- We can't define how quickly devices come up, but we can define how long it takes to go from "cold" to on
 - o E.g. how long it takes to get through the "link good" state machine or from sleep to on
 - The time to got from sleep or off to on should not add any noticeable delay for consumer electronics systems
 - We need to examine this for:
 - Carrier redundant systems
 - Data center fail-over systems

Break at 10:30 AM Reconvene at 10:50 AM

Group discussion – topic: what to do about meeting with 802.1?

Discussion:

- We should have a joint meeting with 802.1 to make sure we're all aware of areas that will impact our projects
- After much discussion in this topic we decided it would be more beneficial to all for the study group chair to give a 10 minute overview during the liaison time slot

in the opening 802.1 plenary meeting. The working group chair agreed to adjust the 802.3 plenary agenda so there would be no conflict with the opening report for the Energy Efficient Ethernet study group.

• Once the overview has been provided to 802.1, we will schedule a joint meeting with 802.1 for either January or March.

Group discussion – topic: technology selection spreadsheet

Discussion:

• The study group edited the draft version and developed a new version named tech-select-v1.xls.

The chair invited Mr. Carlson to discuss future meetings with the group. He polled the group to see if there were any conflicts with holding the January interim meeting during the week of the 21st. Once the poll was completed, the chair informed the group about the next meeting, to be held in November in Atlanta.

The chair called for a motion to adjourn.

Moved: Wael Diab

Seconded: Steve Carlson

Motion approved by voice

Meeting adjourned at 4:30 PM KST