Energy Efficient Ethernet Study Group Meeting Minutes July-17-2007

Attendees:

Name	Employer	Affiliation
Mike Bennett	LBNL	LBNL
Greg Bell	LBNL	LBNL
Chris Diminico	MC Communications	Solarfare
Robert Grow	Intel	Intel
Jim Barnette	Vitesse	Vitesse
Goeff Thompson	Nortel	Nortel
Steve Carlson	HSD	HSD
Ahmad Nouri	Broadcom Corporation	Broadcom Corporation
Wael Diab	Broadcom Corporation	Broadcom Corporation
Kory Sefidvash	Broadcom Corporation	Broadcom Corporation
Brian Holden	PMC-Sierra	PMC-Sierra
David Law	3Com	3Com
Joseph Chou	Real Communications	Realtek
Bill Woodruff	Aquantia	Aquantia
Jim Millar	Force10 Networks	Force10 Networks
Hugh Barrass	Cisco	Cisco
Paul Gyugyi	Nvidia	Nvidia
Shinkyo Kaku	Allied Telesis	Allied Telesis
Wayne Mueller	Neteffect	Neteffect
Amit Gattani	Akros Silicon	Akros Silicon
David Koenen	HP	HP
Joseph Babanezhad	Plato Networks	Plato Networks
Ozdal Barkan	Marvell Semiconductor	Marvell Semiconductor
Carl Posthuma	Alcatel-Lucent	Alcatel-Lucent
Jon Beckwith	UNH-IOL	UNH-IOL
David Chalupsky	Intel	Intel

Session Start at 9:00 AM

- Move to approve minutes for Geneva.
- With no vocal opposition the minutes are approved.
- Chair appointed secretary – Kory Sefidvash for this meeting
- IEEE-SA Standard Board Bylaws Patents in Standards

Agenda & General information
By – Mike Bennett
See – agenda_1_0707.pdf

- Is there anyone in the room that has not read Patents slides? There was no response, it was confirmed.

- Chair issued call for patents. There was no response.
- Chair asked for guide line proposal to uniform test procedure to measure switching time between speeds.

Title- Physcial Layer Considerations for Link Speed Transitions
By-Chris DiMlnico
See-diminico_1_0707.pdf

Discussion:

- Geoff: Commented the last slide does not show all the possibility.
- Chris- Last slide shows some of the possibility and might not show all. This slide is to create as a common point

Title-0BASE-T Possibilities
By- Geoff Thompson
See- Thompson_2_0707.pdf

Discussion:

- Hugh: How much of system needs to stay alive state during 10BASE-T is zero.
- Geoff: it is true for any thing want to go power up and down.
- Hugh: One change .3an mini amount current to stay recognize. If there is no current then you go back to state of detection. If we negotiate to zero state, you know the other end is connected. There is no reason to change link state. If the link is there, then to reset of the world link is there.
- Ahmad: How about two switches are connected?
- Geoff: POE is not peer type.
- Hugh: Agree there are two solutions that we can evaluate pro-con. We also can provide something very close to zero power sub-milliwatts. Concern what link is. The security depends on the link state and we don't want to change the link state. If the link is gig, then it is gig state and we don't want to change the state even if it is in the zero power state. Also, like sounds system at home.
- Chris: look at solving total power. We don't want to burden all system with the POE over head.

- Geoff: We may decide to put capability in the standard and leave it up to the station implementer.

Break at 10:00
Reconvene at 10:30

Review slide: Broad Market Potential

- Transparent might be an issue. Main question and concern in tutorial was the management and interface.

- PAR Scope refers to symmetric protocol. It is not in the objective. Question do we need to have symmetric protocol in the objectives?

    - Since it is in the PAR scope we don't need an objective

- Why isn't 10BASE-T in the objectives?
    - 10BASE-T is the lowest speed

Title-Update on Technical Feasibility of EEE with 10GBASE-T
By-George Zimmeman
See-zimmeman_1_0707.pdf
David-low presented the material for George Zimmerman.

Discussion:

- Is there an objective way to evaluate the 1 msec?
- We may decide to use the fastest possible training. 99% is in msec and the 1% takes longer. It is also possible to consider every 2 minutes to kick it back up and then there is time to recover the 1%.

- Chris: This presentation is technical feasibility. At the appropriate time we should evaluate all the possibilities.

Lunch Break: 11:34 AM
Reconvene: 1:00 PM

Discussion: Review the note from training.

There is a possible way to go to lower power state because of battery supply state. Backward congestion could be use to not change the power state

Meeting recessed at 2:35 PM

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Mike Bennett	LBNL	LBNL
Greg Bell	LBNL	LBNL
Bruce Nordman	LBNL	LBNL
Vern Paxson	LBNL	LBNL
Chris Diminico	MC Communications	Solarfare
Robert Grow	Intel	Intel
Jim Barnette	Vitesse	Vitesse
Goeff Thompson	Nortel	Nortel
Steve Carlson	HSD	HSD
Ahmad Nouri	Broadcom Corporation	Broadcom Corporation
Wael Diab	Broadcom Corporation	Broadcom Corporation
Kory Sefidvash	Broadcom Corporation	Broadcom Corporation
Kevin Brown	Broadcom Corporation	Broadcom Corporation
Scott Powell	Broadcom Corporation	Broadcom Corporation
Howard Frazier	Broadcom Corporation	Broadcom Corporation
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Joseph Babanezhad	Plato Networks	Plato Networks
Ozdal Barkan	Marvell Semiconductor	Marvell Semiconductor
Carl Posthuma	Alcatel-Lucent	Alcatel-Lucent
Jon Beckwith	UNH-IOL	UNH-IOL
David Chalupsky	Intel	Intel
Jeff Lynch	IBM	IBM
Robert Winter	Dell	Dell

David Huo ZTE Corporation ZTE Corporation

Title-Audio/Video Bridging for Home Networks
By-Michael D. Johas Teener
See-teener_1_0707.pdf.

Discussion:

- If there is something outside of the cloud and is not in the register, it will cause an issue. It won't get AVB quality guarantee. If there is propriety, then there should proxy to keep track of it. Or upgrade the legacy device.

- Class-5 traffic might not select to drop down from 1G to 100 because of the latency. However, the class 4 traffic, then it will elect to go from 1G to 100 because it does not care.

- AVB should be tolerant or be aware of the speed is changing.

- Bob grow: prefer if you are tolerant, it is a better way. So the AVB interpret it as normal operation and not as error.

- The minimum we need to know when the packet goes out or receive with in 40 ns at PHY MAC interface. This will be hidden in NIC somewhere. It is time stamp of event and not the packet.

- 802.1 and 802.3 folks need to work together to figure out where the timing will be done.

    - The coordination process has started and will not be a problem.

Title-Some Perspectives on the Performance Impact of Link-Speed Switching Outages
By-Vern Paxson
See-paxson_1_0707.pdf

Discussion:

- One of objective is no packet loss on wire due to transition.

- Update last slide - Enough buffer for no loss.

- Hugh: egress buffer of 1 msec is good for switches.

- Let say we have 1 msec transition, then you will need 1 msec worth of buffer.

- Jeff: switches should provide buffer for the transition time. This presentation is trying to show how much more buffer need above the transition time.

- Vern: AVB wasn't originally a consideration for EEE and has only recently come into the picture.

- Bruce: Concern was latency from experience. Vern was talking about the higher layer and there is no concern in the high layer.

- RTT is average over a time of frame. It depends how long it is. Then I will learn at higher layer. Do I have full window. Latency is very minor effect. Single one time 25 ns is below RTT.

- One system changes a lot and the other system does not want to change a lot. Do these two systems interoperate? Then the system that does not want to change will dominate.

- Hugh: earlier assumption is there is policy manager on both end of link.

Lunch break - 12:40 PM
Reconvene - 1:45 PM

Title-Energy Efficient Ethernet Transparent – not invisible
By-Hugh Barrass
See-barrass_1_0707.pdf

Discussion: Should the group add an objective to do the management definitions?

- Scott: Is there a crisp definition of complete means in Management definitions.

- Hugh: Project has gone through with management section empty: We can have TBD in some of the sections. We should go to ballet to have everything that we can think of.

- Hugh: Propose that study group adopt an objective that Management definitions must be complete before starting Working Group ballot.

- Wael: He does not quite agree with the way it reads. Objective is more what we are going to deal with.

- Hugh: Difficulty is some of the management will be depend on the proposal. Proposal will need management elements.

- Jeff: Objective has transport on higher level. The objective will have visibility to control management.

- John: This is a bit aggressive. When you are done with the protocol, then you will do what upper level will do. After the proposal is done then he can look at the and see he should add the management.

- The presentation is noted as Hugh's belief that the draft should not go to WG before the management is addressed.

Title-EEE Savings Estimates
By-Bruce Nordman
See-nordman_1_0707.pdf

Discussion:

- Are the assumptions in the savings estimates good enough? Most people in the room think the order of magnitude estimates from market forecasts are OK for the estimates

Motion

Study group requests an extension from the 802.3 WG

Moved: Jeff Lynch
Seconded: Bill Woodruff

All Yes: 19 No: 0 A: 0
802.3 Yes: 10 No: 0 A: 0

Motion to adjourn

Moved: Wael Diab
Seconded: Kory Sefidvash

Passed by voice

Meeting adjourned 2:45 PM