The working group would like to thank Peter Johansson and Sony Corporation for sponsoring this meeting. The meeting started at 8:30am. The minutes from the previous meeting were accepted without any corrections or changes.

Power Management: Claude Cruz

Claude Cruz started with a discussion on power management and his suspend resume proposal:

Explained suspend/standby mode and new packet types required for the power management. Peter described how ack_tardy would work in case of a PHY that is in the standby state. John Fuller suggested the ack_tardy be used only by computer hosts but not by peripheral devices. Rudy Block had concerns about commonly used areas of the configuration ROM being available in the low power state. Some discussion on link-on vs. autonomous low power entry/exit. John Fuller mentioned that ack_tardy mechanism provides good enough support for energy-star like power saving modes. The host can autonomously go to low power mode.

The group concluded that more discussion was required on ack_tardy before it could be accepted as defined. This topic to be discussed further on the reflector.

Peter also talked about ack_address_error: Peter asked people to review this. This was added for OpenHCI. Is this justified and useful?

Claude then described his proposed suspend states. Some discussion about bus-wide suspend v/s a suspend mode between two adjacent PHY's. Peter asked if the bus-wide needs to be a part of the 1394a spec? There are a lot of open issues here and Peter suggested that a smaller group meet in the next few weeks and come up with an agreed upon spec. Claude then collected names of people who would be interested in working on the details.

Single/Dual Phase retry:
Carried over to next meeting.

Speed Signaling timing: Burke Henehan/Jim Skidmore
Burke explained the speed signaling rules written by Jim Skidmore. These rules will be posted on the reflector.

PHY-LINK status transfer: Prashant Kanhere
Prashant explained the updated PHY status transfer rules. During the discussion, a corner case was found that could possibly have a problem whereby a sub-action gap indication could be missed by the link. A possible fix was also discussed but it depends upon how the current link designs behave in this corner case. Prashant will post the problem description on the reflector and solicit feedback from link designers.

Taka Fujimori: Near end cross talk
Taka described his experiment on speed signal noise thresholds. Mike Brown wanted to know if the results presented were all due to near end cross talk or reflection from the connector. There was a lot of

discussion on this topic and Peter suggested that we don't have enough information to make a decision on this subject so he asked for volunteer(s) to drive this issue. The conclusion was that we will continue this discussion until the next meeting.

Cable/Connector test procedures: Eric Hannah
Carried over to the next meeting.

Security Requirements: John Fuller
Explained the proposed rule on snooping/spoofing. Mike Brown suggested that we have the language reviewed by legal experts. John Fuller moved and Richard Churchill seconded a motion to approve the proposed wording on snooping/spoofing. Motion passed unanimously.

Caboose packet description: Peter Johansson
Peter reviewed the "caboose" packet description.

Per-port Disconnect feature diagram:
Peter reviewed the diagram in the current draft. Colin suggested that we put hysteresis on the bias signal.

Straw Poll on above suggestion

Favor   7
Against   1
Abstain   6

4 pin connector and cable drawings: Max Bassler
Max presented new drawings for the 6 to 4 pin connector. Mike Brown expressed concerns on potential noise problems when a 6 to 4 pin cable is connected into a PC since pin 2 and the shell would be connected together. Mike Teener suggested that the spec show two example diagrams: one AC coupled and another one with direct connection. David Wooten took the AR to provide a drawing for the directly connected example.

Loop Detection and Healing: Rudy Block
Rudy talked about the need for automatic loop detection in the CE environment where a consumer may inadvertently create loops in the topology. Rudy mentioned that he was working with Apple to see if their implementation for automatic loop healing could be used. He will come back with a complete proposal by the next meeting.

Additional Items on PHY-Link interface: Colin Whitby-Stevens
Colin explained the PHY-Link AC timing proposal that he sent on the reflector. He is awaiting feedback from current PHY designers. He expects a closure on this issue by next meeting.

He also talked about the 7-bit vs. 8-bit request formats and whether this could cause a problem with existing designs. Peter will send an EMAIL out on the reflector to find out whether the current links send out more than one stop bits (even for a back to back LREQ request)

He further suggested updates/changes to various sections in the current draft.

PHY Pinging Analysis: Jerry Hauck
Jerry explained two methods of PHY pinging: one with a ping timer on all PHY's and the second with a ping manager only on the bus manager. Lot of discussions on what range the PHY delay should be for long haul PHY and

whether 2 bits of 4bits are required. Peter asked if we should defer the register definition until we get more information about the range of PHY delays etc. The consensus was that the caboose packet will reserve the speed bits with currently all bits being set to 0.

Richard Churchill: Privileged arbitration:
Richard distributed his proposal but could not elaborate on it due to lack of time. He would like to initiate a discussion on the reflector on this topic.

ESR (Error Status Registers) Calto Wong:
Calton described the proposal to define Error Status Registers and wanted to know if these would be useful or the current response of generating bus resets would be good enough?

Peter asked for a straw poll on whether these ESR's should be included in the spec.

Yes: 0
No: --

Current Limiting: Dave Wooten
Dave talked about current limiting and when it should be added (for devices with more than two ports) Peter mentioned that most of this work (safety related) is in the TA document and can be moved to "A".

June Meeting
John Fuller to check to see if he can host the June Meeting in Seattle.

Action Items:

1 Send EMAIL regarding PHY-Link corner case and possible fixes to the reflector. Prashant Kanhere
2 Provide a drawing for the directly connected example.   David Wooten
3 Send an EMAIL out on the reflector to find out whether the current links send out more than one stop bits (even for a back to back LREQ request)   Peter Johansson
4 John Fuller to check on June Meeting hosting.

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