

S800baseT Meeting Minutes for July 8, 2003

Attendees:

David Stone – Oxford Semi
Les Baxter - Avaya
Pascal Lagrange – Canon
Richard Baker - TI
Colin Whitby-Strevens - Apple
Johann Zipperer _ TI
Carmen Gonzalez – TI
Steve Brown - Broadcom
Peter Johannson – Congruent SW
Yoon Sun Lee – Samsung Electronics
Jinhee Kim – Samsung Electronics
Burke Henehan – TI

Agenda:

1. Welcome
2. Introductions
3. Voting – Must have attended 2 out of last 3 meetings
4. Approval of agenda – approved with addition of Les Baxter for a higher speed presentation.
5. Call for Patents
 - Apple may have patents that they will license through 1394 Patent Pool
 - Broadcom may have patents that they will license on a reasonable and non-discriminatory (IEEE) basis
6. Approval of minutes
7. Review of Action Items
8. Document status
9. Standby Mode – Kevin Brown
10. Higher speeds – Les Baxter

Action Items:

Previous Action Items:

Send draft to 802.3 for reserving our code for auto negotiation. Should be done as soon as a reasonable draft exists in the working group.

Assigned to S800BaseT as a group

Poll networking people in Apple on how Apple does IP bridging? Is there an informal standard?

Are there de facto standards?

Assigned to Michael Teener

Ask Bob Davies about status of recommended practices. The intent is for the majority of work on this project becoming 1394c. This will allow publishing of draft documents and a balloting process.

Assigned to Peter Johannson

Need a draft document for review of work so far in S800BaseT. Next goal is published in August 2003 so membership can review before the next meeting.

Assigned to Michael Teener.

Need prototype "c" code for draft document. Next goal is published in August 2003 so membership can review before the next meeting.
Assigned to Colin WS

New Action Items:

Liase IP networking to 1394 TA Arch WG as proposed home and to the Networking WG. No longer be considered in this working group.
Assigned to Colin WS

Flesh out both proposed power management options. Get more detailed power numbers, get more detailed timing numbers.
Assigned to Colin WS and Kevin B

Determine abstract interface for side band signals for power control interface that complements GMII.
Assigned to Colin WS and Kevin B

Try to determine the extent of how many leaf node devices that would take advantage of a fast restore time will there be on S800baseT network?
Assigned to S800baseT community.

Do people feel that power management should be made mandatory or optional? What criteria are they using to make this determination?
Assigned to S800baseT community.

Presentations:

Proposal for Power Managed Standby Mode:

Kevin Brown then presented on a proposed S800baseT Standby Mode:
1000baseT Ethernet does not have a standby mode. Both ends of the connection are synced in a master/slave relationship (part of autonegotiation - AN) for crosstalk cancellation, echo cancellation, and phase alignment. Can take up to 750ms. Idle pattern is like 1394b. Allowed up to several seconds for AN, then allowed up to 750ms.

Option One:

Keep locked & synced PLLs. Think can do for ~100mW, normal ~800mW; perhaps restore in ~10ms.

Need to make sure both sides of network understand the connection is going into standby

Initiate by either a standby packet or by special symbol

Discussion ensued of whether it should be transparent to higher layers (assuming there are higher level 1394 layers).

Questions still to be resolved: What are the timing for sending the power management PAM5 symbols? How long must it be maintained to be recognized?

Option two: Allow loss of synchronization, just revert to link pulses to detect connection, ~50mW, but will take ~1 sec to restore.

Use simple link pulses, will loose sync, but can save more power. However will require longer to come back.

For reference: 1394b will wait for 1/2 second coming back from suspend, then if no bus reset has been seen, it will force a bus reset.

Should this be like 1394b standby/restore or 1394a suspend/resume? To answer this question will require knowledge of how many leaf nodes will there be that can benefit from a fast restore?

Will Power over Ethernet help obviate need for more power management? 802.3af has been approved. It is not thought that the availability of power will obviate the need for power management, it will still be important.

Can we use the Phantom power of 802.3af for connection detect? Need further investigation. Not thought that it would be the complete solution, since it is a new standard, so legacy devices will not have power implemented.

Note: for lower power, it is also desirable, like current 1394, to go to low power when disconnected, and have a connection detection mode.

Apple wants power management, thinks it should be mandatory.

Can existing GMII devices do auto-negotiation today? YES, if write new page into PHY using SW.

Can we send infinitely long packets today? YES

Thanks to Kevin Brown for this presentation.

Please see the Kevin Brown presentation of July 8, 2003 on web site.

Les Baxter High Speed PHY Interface proposal.

Defining xGMII interfaces for S1600 & S3200 that works with S1600 and S3200 reconciliation layer. It compares the options of 10G Ethernet interface called XGMII and the XAUI interface.

Thanks to Les Baxter for this presentation.

Please see the Les Baxter presentation of July 8, 2003 on web site.

Status on PAR for S800baseT IEEE committee.

Need a chair (official reporter), need a scope, need a purpose, and need to fill out IEEE form with this information.

Edited scope in meeting:

Scope

This is a full-use standard whose scope is to amend IEEE Std 1394-1995, IEEE Std 1394a-2000 and IEEE Std 1394b-2002 to specify an alternate physical layer leveraging IEEE Std 802.3-2002 1000BASE-T PHY technology.

Edited purpose in meeting:

Purpose

Technology advances have made gigabit signaling over unshielded twisted-pair cables a feasible and attractive extension to IEEE 1394. For example, data storage and digital video will benefit from higher speeds and longer distances than provided by the IEEE Std 1394-1995 and IEEE Std 1394a-2000 and from lower complexity than provided by the high speed optical technologies specified in IEEE Std 1394b-2002.

Both scope and purpose approved by group.

Goal for Completion: June 2005

Official Reporter: Michael Johas Teener

Note to approving body that it should be OK to do a "c" amendment since already combining 1394-1995, 1394a-2000, and 1394b-2002 into a single document.

Meeting Ajourned