

Minutes of IEEE P1394c Working Group Meeting (3/23/2004)

The IEEE P1394c Working Group was hosted by Apple in Cupertino, CA on Tuesday, March 23, 2004. The attendees were:

Colin Whitby-Strevens	Apple	colinws@apple.com
Kevin Brown	Broadcom	kbrown@broadcom.com
Walter Hurwitz (conf. call)	Broadcom	whurwitz@broadcom.com
Les Baxter	Commscope	les@baxter-enterprises.com
David James	Self	dvj@mit.alum.edu
Michael Johas Teener	Self	mike@teener.com

Agenda:

- 1) Welcome and introductions
- 2) IEEE Patent Policy – Chairman Michael Johas Teener reviewed the IEEE's patent policy.
- 3) Minutes from February meeting were approved by acclamation.
- 4) Review of old action items
- 5) Suspend/resume timing
- 6) Root contention proposal
- 7) Synchronous Ethernet update
- 8) 1394c document schedule.
- 9) Next Meetings

Previous Action Items:

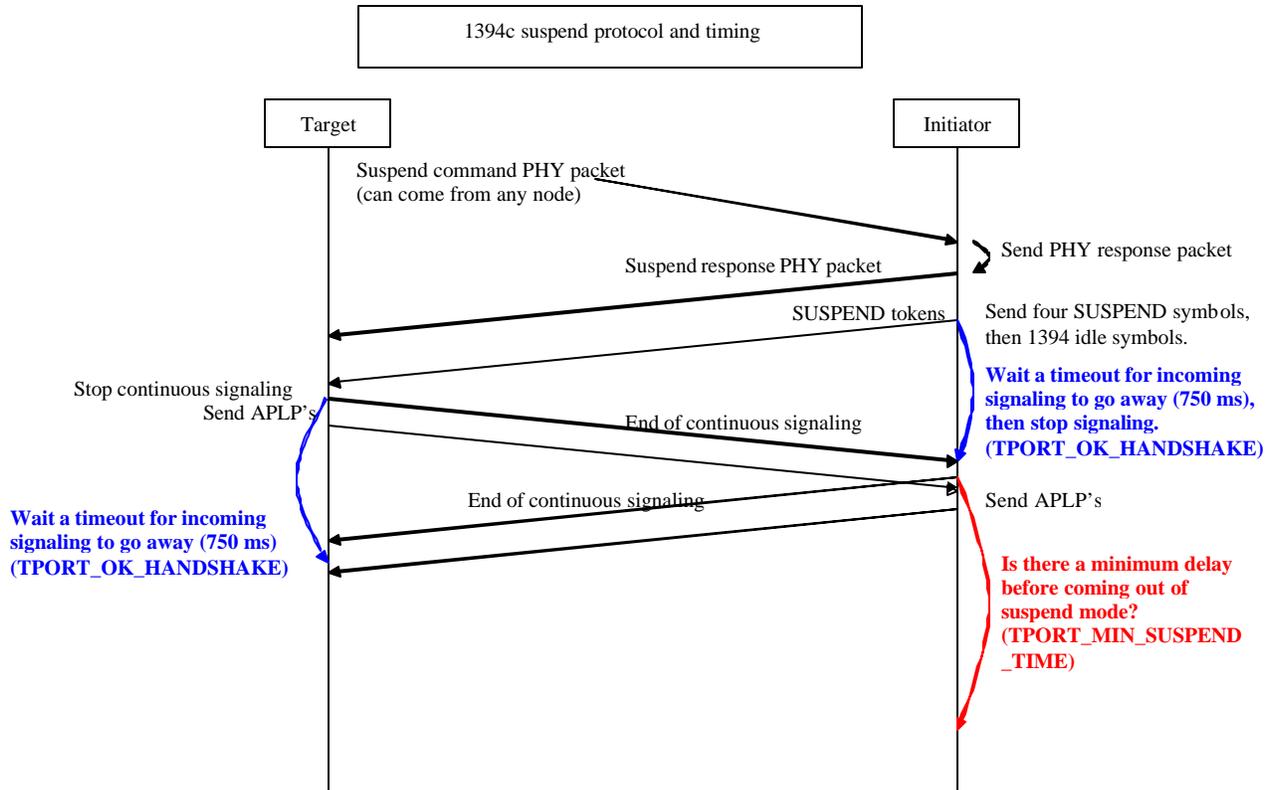
(Note – comments from this meeting are in red.)

No.	Name	Description	Opened	Closed
8	Colin	Run the error simulation without the robust encoding and compare to the current results. – Simulation was run but the data is not fully analyzed yet. (Still open)	9/23/2003	
26	Colin	Update the C-code and service specifications to match the new services model to correspond to item 25 above. (Putting the changes into the simulation model first, then will do the C-code.)	1/19/2004	
27	Burke	Review the new root contention proposal (Colin contacted Jim Skidmore – looks ok, see attached email below)	1/19/2004	3/23/2004
28	Colin	Run a simulation of the new root contention algorithm (Still open.)	1/19/2004	
30	Mike	Add language to the 1394c draft to specify that IEEE 802.3af powering will be used with both S800-T ports and 1394b S100 UTP ports. – (Still open)		
31	Mike	Send in tutorial request form to schedule a 1394c tutorial at the July 802.3 mtg., copy to Kevin (Paperwork done, not mailed in yet.)	2/17/2004	
32	Mike	Follow up w/Bob Grow to get a selector code assigned ASAP (Code 00100 was allocated at the Orlando 802.3 meeting.)	2/17/2004	3/23/2004
33	Mike	Follow up w/Bob Grow regarding technical liaison (Still open.)	2/17/2004	
34	Walter	Provide rough draft of alternate pair negotiation spec to incorporate into the next draft of 1394c. (Almost finished.)	2/17/2004	
35	Colin	Change 1394c spec to only update the physical ID when coming out of standby when there has been a bus reset and update the forced reset timeout to 1.6 seconds. (Still open – will discuss at the Silicon WG next week.)	2/17/2004	

No.	Name	Description	Opened	Closed
36	Burke	Confirm characteristics of 1394b UTP signal detect implementation to make sure they will not be confused by 802.3 link pulses or fast link pulses. (Colin and Mike will discuss w/Burke at the Shanghai mtg.)	2/17/2004	
37	Colin	Update Connection Management spec for dual-mode port support (Still open.)	2/17/2004	

Suspend/resume timing

There was a fairly extensive discussion about suspend/resume timing. A timing diagram (slightly modified from the one in the 12/16/2003 meeting minutes) is shown below.



The 1394c suspend initiator PHY sends a SUSPEND 1394c control token to the suspend target. The suspend target PHY receives this token and instructs its GE PHY to stop signaling (service call of PMD_UNSELECT_PORT).

Meanwhile the suspend initiator PHY sits and waits to see the incoming signaling go away (the status flag PMD_TPORT_OK is taken false by the local GE PHY). This can take up to 750ms (?? see below). Once the suspend initiator PHY sees PMD_TPORT_OK go false, it also instructs its GE PHY to stop signaling (service call of PMD_UNSELECT_PORT).

Question: What is the minimum time from this point before the suspend initiator can request a resume (service call of PMD_SELECT_TPORT)? This parameter will be known as TPORT_MIN_SUSPEND_TIME. It's value is currently TBD. Is it another 750ms, or even as much as 1.6sec, or ??? In 1394b the time is 5.3 msec.

Question: When one PHY stops signaling, can PMD_TPORT_OK stay TRUE for as long as 750ms? This seems a very long time.

Root Contention Proposal

The root contention proposal documented in the Feb. minutes was reviewed and accepted by TI. Attached below is an email from Jim Skidmore of TI and a response from Colin.

Colin,

The root-contention stuff looks OK to me.

But a few questions: Can a port be tri-lingual (i.e., T-mode, Beta, or DS, depending on what it's hooked up to? If so, does the timeout-control flag get set true when the port becomes configured as T-mode? And why do you want the timeout control on a per-port basis, instead of just having T-mode-capable nodes setting the timeouts to the new longer value? I can sort of see why—but is it worth the added complexity/gates/etc. (OK, it's not that much, but...)? The worst that I see happening is that when you connect to a legacy device, the legacy device always wins.

Regards,

Jim Skidmore

Many thanks Jim for the impressively fast response.

In answers to your questions, a port cannot be tri-lingual. The connector is RJ-45. The most agile that a port can be is to be Beta/UTP or T_mode. We did think about having a new PHY-specific value, but thought that we'll be connecting other ports frequently to Beta/DS etc, and it would be preferable to have a port-specific value. We've discussed it a bit again following your inputs, but still think we'd like to go for the port-specific implementation.

Colin

Synchronous Ethernet Update

Walter and David attended an unofficial meeting of the Synchronous Ethernet group on March 18 at the Orlando 802.3 meeting. It was attended by about 25 people. They didn't appear to make any progress in defining what Sync-E is. There is still no resolution about having a Call for Interest at the July 802.3 meeting. David volunteered to put together a white paper about how to do synchronous Ethernet.

1394c Document Schedule

A new draft will be distributed before the next meeting. The major missing block of text is the section on alternate pair negotiation (action item 34.)

New Action Items:

No.	Name	Description	Opened	Closed
38	Richard	Determine the value of the TPORT_MIN_SUSPEND_TIME variable.	3/23/2004	
39	Richard	Confirm that 750 ms is the proper value for TPORT_OK_HANDSHAKE	3/23/2004	
40	Mike	Distribute new draft of the 1394c specification before the April 27 meeting.	3/23/2004	

Next Meetings

The schedule for the next few meetings is:

- Informative presentation by Mike Teener at the Shanghai 1394 TA meeting on Friday April 2, 2004.
- Tuesday, April 27, 2004 at 8:00 AM, hosted by Agere in Allentown, PA.
- Tuesday, June 8, 2004 at 10:30 AM, hosted by Broadcom in San Jose, CA.

Prepared by:

Les Baxter

732-212-1400

les@baxter-enterprises.com