

Minutes of IEEE P1394c Working Group Meeting (2/17/2004)

The IEEE P1394c Working Group was hosted by Panasonic in San Jose, CA on Tuesday, Feb. 17, 2004. The attendees were:

Colin Whitby-Strevens	Apple	colinws@apple.com
Kevin Brown	Broadcom	kbrown@broadcom.com
Richard Thousand (conf. call)	Broadcom	thousand@broadcom.com
Walter Hurwitz	Broadcom	whurwitz@broadcom.com
Les Baxter	Commscope	les@baxter-enterprises.com
Dwayne Escola	Panasonic	descola@psdc.com
Nick Kanzaki	Panasonic	kanzaki@psdc.com
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) Approval of Minutes from January meeting – approved by acclamation.
- 4) Review of old action items
- 5) Suspend Mode Timing
- 6) Connect/Disconnect and Low Power Service Issues
- 7) Distinguishing Between 1394b Toning and 802.3 Link Pulses
- 8) IEEE 802.3 Selector Field and 1394c Tutorial
- 9) Synchronous Ethernet update
- 10) Schedule for 1394c document.
- 11) Next Meetings

Previous Action Items:

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

- 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)
- 19) Kevin Brown– contact Bob Grow regarding establishing a technical liaison with 802.3. (Request was made, no response yet. **Mike will follow up w/Bob Grow -- CLOSED.**)
- 20) Michael Johas Teener – schedule a P1394c tutorial presentation at March IEEE 802.3 plenary (Orlando, FL, March 14-19, 2004) (Sent an email request on 1/12/2004 to Bob Grow, Geoff Thompson, etc **March mtg. is full, Mike will try for the July meeting. See attached email from Bob Grow below -- CLOSED.**)
- 21) Richard Thousand – specify timing diagram and constraints regarding entering and exiting suspend mode. (Richard sent an email to Colin – needs more discussion and a timing diagram. **See discussion below – CLOSED**)
- 22) Walter Hurwitz – proceed with more details on the Alternate Pair C/D autonegotiation proposal. (Still open) **CLOSED**
- 23) Michael Johas Teener – formally request the assignment of a 1394 selector field from 802.3. (Requested by email. **See email from Bob Grow below. – CLOSED**)

- 25) Colin – schedule a conference call with Broadcom to resolve connection/disconnection and low-power services issues. (See discussion below – CLOSED)
- 26) Colin – update the C-code and service specifications to match the new services model to correspond to item 25 above. (Still open.)
- 27) Burke – review the new root contention proposal. (Still open)
- 28) Colin – run a simulation of the new root contention algorithm (Still open)
- 29) Kevin – determine if 1394b toning can be distinguished from all possible types of Ethernet signaling. (See discussion below. -- CLOSED)
- 30) Mike – add language to the 1394c draft to specify that IEEE 802.3af powering will be used with S800-T ports. (Will be in the next draft. S100 UTP ports will also use 802.3af power.)

Suspend Mode Timing

Tport_ok_handshake will be set to 750 ms to allow for the worst case GbE PHY. PHYs typically work much faster than this, but this the 802.3 worst case. The corresponding parameter in 1394b (receive_ok_handshake) is 16 ms.

The 1394b forced disconnect timeout is currently 40 ms. This needs to be updated to 1.6 seconds.

There was a lengthy discussion about whether there is a problem when two ports in standby mode are swapped quickly (within the 1.6 ms 1000BASE-T timeout.) Is it possible that they take on the wrong identity when they come out of standby mode? See action item 35 below.

Connect/Disconnect and Low Power Service Issues

The following changes are made to parameters in clause 16 of the 1394c draft:

Remove PMD_LINKPULSE_ON

Remove PMD_LINKPULSE_OFF

Remove PMD_DISCONNECT_TPORT

Change PMD_AUTONEGOTIATION_ACTIVE to PMD_NEGOTIATION_ACTIVE

Change PMD_TPORT_SIGNAL_DETECT to PMD_TPORT_CONNECTED

Change PMD_AUTONEGOTIATE to PMD_START_NEGOTIATE

Synchronous Ethernet Update

The Synch-E group was considering a tutorial and CFI at the March 802.3 meeting. They have decided that they are not ready and are considering whether to try again at the July meeting.

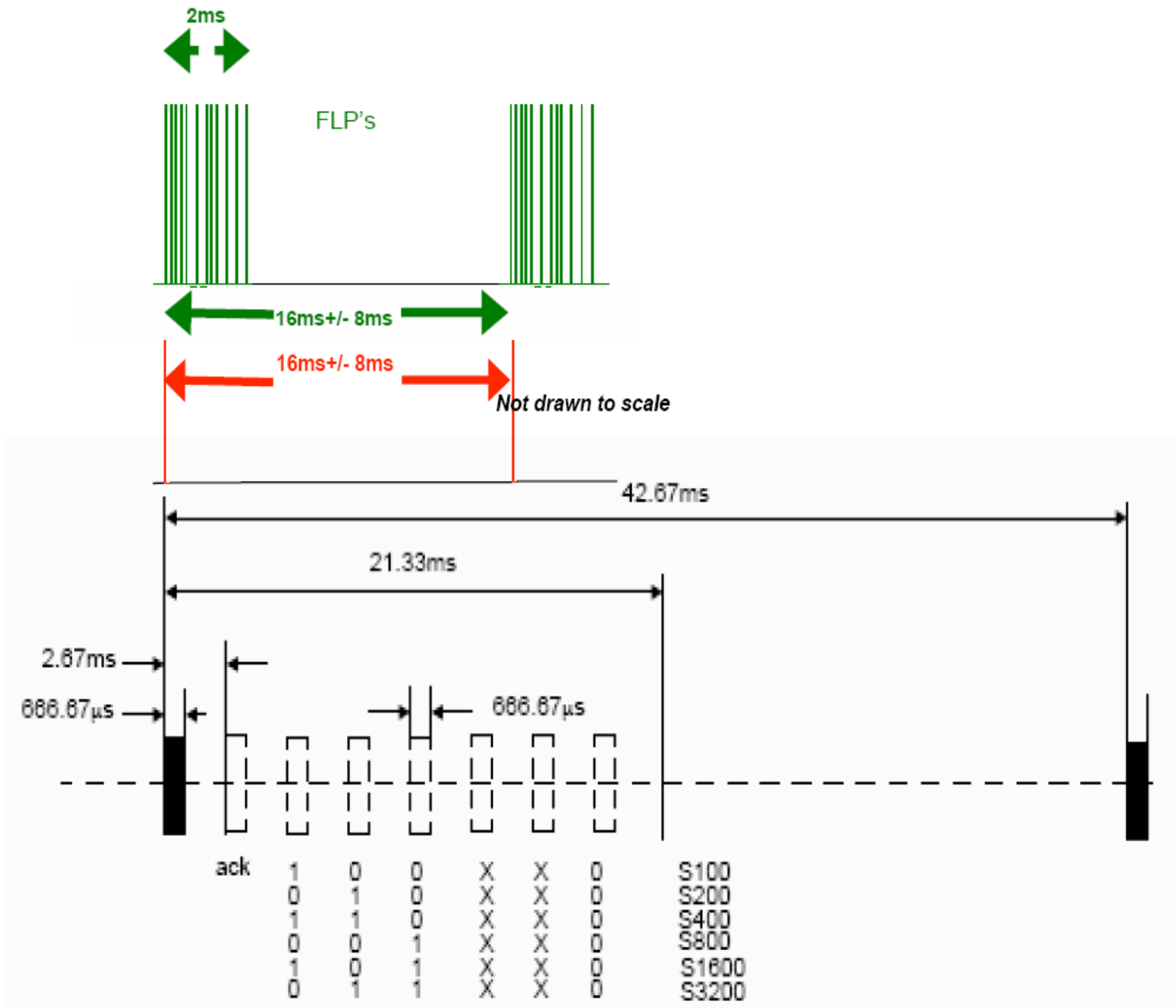
Schedule

Mike reviewed the schedule for completing the 1394c project.

- Have a complete, stable draft of 1394c by June.
- Complete the internal review of the 1394c draft by August.
- Fold 1394c into the Peter Johanssen revision if it is ready. Otherwise, proceed with a ballot of 1394c this fall and fold into 1394-2005 before it is published. The goal is to never have a separate 1394c document published by the IEEE.

Distinguishing Between 1394b Toning and 802.3 Link Pulses (Kevin)

Kevin gave a presentation that reviewed the format of 802.3 normal link pulses (NLP), fast link pulses (FLP), and 1394b toning pulses. See the figure below which was excerpted from Kevin's presentation. The conclusion is that the 802.3 pulses are narrow enough and far enough apart that no confusion will result and a 1394c dual-mode port will be able to distinguish between the 802.3 link pulses and the 1394b toning. Action item 36 was added to confirm that the 1394b S100 port will not be confused by the 802.3 link pulses.



IEEE 802.3 Selector Field and 1394c Tutorial

Email from Bob Grow to Mike Teener and Kevin Brown, re: action items 20 and 23:

From: Grow, Bob <bob.grow@intel.com>

Date: Mon, 26 Jan 2004 09:55:47 -0800

To: Michael Johas Teener <teener@apple.com>, Bob Grow <bob.grow@ieee.org>

Cc: Bob Davis <bob@scsi.com>, Kevin Brown <kbrown@broadcom.com>, Geoff Thompson <gthomps@nortelnetworks.com>, Everett Rigsbe <everett.o.rigsbee@boeing.com>, Paul Nikolich <p.nikolich@ieee.org>, David James <dvj@alum.mit.edu>

Subject: RE: Selector field for p1394

Michael/Kevin:

Sorry I've been slow to respond, your request came during our interim meeting week and I am now trying to catch up with the backlog. I'm told the 802.3 chair is not required to get committee approval before allocating a selector field, but I will want to consult with the 802.3 Advisory Core and confirm this before taking that option.

Tutorials are Monday and Tuesday evening. I believe in March, the two tutorials are already requested, and I have a Call for Interest request that hopefully will run in one of the other slots. If you still think a tutorial is appropriate and of general interest to IEEE 802, I will need more detail to consider sponsoring the tutorial (see the IEEE 802 Chairs Guidelines on Tutorials – http://www.ieee802.org/chair_guidelines_1-6.pdf, and the attached tutorial request form).

--Bob

New Action Items:

- 31) Mike – send in tutorial request form to schedule a 1394c tutorial at the July 802.3 mtg., copy to Kevin
- 32) Mike – follow up w/Bob Grow to get a selector code assigned ASAP
- 33) Mike – follow up w/Bob Grow regarding technical liaison
- 34) Walter – provide rough draft of alternate pair negotiation spec. to incorporate into the next draft of 1394c.
- 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.
- 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.
- 37) Colin – update Connection Management spec for dual-mode port support

Next Meetings

The schedule for the next couple of meetings is:

- Tuesday, March 23, 2004, 10:30 – 3:00, hosted by Apple (Cupertino, CA)
- Informative presentation @ Shanghai
- April, 2004 hosted by Agere in Allentown, PA. The exact date is TBD.

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