

Minutes of T11.1 HIPPI Optical Ad Hoc Working Group

April 13, 1999
Palm Springs, CA

1.0 Opening remarks and introductions

The T11.1 Chairman, Roger Ronald of Power Micro Research, opened this meeting at 6 PM and thanked Jeff Stai and Brocade (who have parted company) for hosting this meeting.

This group is constituted as both the HIPPI Working Group under T11.1, and the High Performance Networking Forum (HNF) - Technical Committee (TC).

The list of attendees is at the end of these minutes.

2.0 Selection of secretary

Roger Ronald lead a round of introductions. Roger will record and produce the final HIPPI-6400 Optical minutes separate from the other HIPPI minutes.

3.0 Review / modify the draft agenda

Draft agendas were distributed via e-mail before the meeting. There were no additions.

These minutes reflect the approved agenda.

4.0 Document distribution

Roger described the HIPPI web page at www.hippi.org. Meeting documents are placed there and people are encouraged to pick up the documents before the meeting as extra documents are generally not available at the meeting.

5.0 Review minutes of previous meeting

The minutes of the February 9, HIPPI Optical Working Meeting in Tucson, AZ, were reviewed.

There were no changes.

Mike Dudek moved and Shelto Van Doorn seconded to approve the February 9, 1999 working

meeting minutes as written. Motion passed unanimously.

6.0 Review action items

The action items from the December meeting were reviewed.

1. Roger Ronald to produce the minutes for the February meeting. **(done)**
2. Joel Darnauer, Steve Joiner, Mark Donhowe, and Dan Brown to resolve the jitter budget and specification line items. SGI has the ball to review the provided text (on the web site) for jitter and skew. Input from SGI is needed ASAP so that the timing budget questions can be resolved. **(partially done, several of the named individuals have left the group. This action will be combined with #4)**
3. Don Tolmie to update HIPPI-6400-OPT Rev 0.9 with the changes agreed to at the February meeting. **(done)**
4. Arun Agarwal to investigate jitter testing with the SuMAC chip. Discuss with Greg Chesson. **(carryover, will be combined with #2)**
5. All to continue discussions about Siemen's "MT connector problem presentation" at a future meeting. **(carryover)**
6. Optobahn to specify the Table 5, 1300 nm optical parameters, using the same parameters as in Table 4 for 850 nm, i.e., "Received Optical Modulation Amplitude (min)" and "Average Received Power (max)". **(done, now Don Tolmie needs to include it in version 1.1 of OPT)**
7. Joel Darnhauer to provide a copy of his jitter presentation to Roger Ronald for inclusion on the web site. **(carryover)**
8. Roger Ronald to investigate whether Mark Donhowe's jitter analysis ever made it into HIPPI-6400-OPT. **(done-it's in version 1.0, somehow it missed 0.9)**

7.0 Presentations

No presentations were made at this meeting.

8.0 Jitter Discussions

Mike Dudek stated that he was very concerned about whether the jitter numbers in the latest version of HIPPI-6400-OPT would allow a link to work at all.

Then Greg Chesson asked about using a single 10 Gbit channel. This wasn't included in the scope of the current interface, but did kick off discussions on other options.

Discussions mentioned the benefits to jitter reduction of averaging the retraining sampling period, but this option is too late for the SuMAC.

Mike Dudek then pointed out that splitting out the random jitter from the deterministic jitter would allow a reduction in total jitter. The maximum expected random jitter would be reduced to the root of the sum of the squares (RSS) of the individual components.

9.0 Review HIPPI-6400-OPT Rev 1.0

Changes in this version of the document were limited to change in the name of the optical connector (from MTP to MPO) and the addition of text on the jitter budget). All of these changes were accepted, with comments and changes as described in Paragraph 8.0.

It was also noted that Optobahn had completed their action item for providing "table 5" parameters and these would be included in a subsequent version of HIPPI-6400-OPT:

- Instead of Dynamic range (min.) = 10 dB and Sensitivity (max.) = -18dBm
- Received optical modulation amplitude (min.) = 0.030mW, and average received power (max.) = -6 dBm.

10.0 Call for patents

Roger issued a call for disclosure of the existence of patents required to implement the results of any and all HIPPI standards. It is necessary for the patent holders to agree to license those patents in conformance with the ANSI patent policy if the

project on which they apply is to proceed. T11 and its Task Groups are not involved in this process at all other than to issue the call and forward paper-work.

The contact at ANSI is the General Counsel, Ms. Amy Marasco - (212) 642-4954 or amarasco@ansi.org. A patent policy description is at www.ansi.org/proctbl.html, section 1.2.11.

No new patent claims were made at this meeting.

11.0 Planning for future work

Some effort to wrap things up seems appropriate. Roger posed the question about what was needed, so that a standard could be finished and real working products made available.

There seemed to be real light at the end of the fibre optic tunnel as a result of the progress made in the jitter area during this meeting.

12.0 Future meeting schedule

12.1 June 8, Minneapolis, MN

The next Optical working group meeting will be held June 8th from 6-9 PM (during the June Plenary week in Minneapolis.) The hotel information is available at the www.hippi.org web site.

12.2 Future meeting dates and locations

The Optical working group will continue to meet on Tuesday evening during the T11 Plenary week, following the HIPPI working meetings.

1999

Jun 7-11	Plenary	Minneapolis, MN	Ancor
Aug 2-6	Plenary	Minneapolis, MN	ENDL
Oct 4-8	Plenary	<u>Miami Beach, FL</u>	<u>Jaycor</u>
Dec 6-10	Plenary	Reno, NV	Solution

2000

Feb 7-11	Plenary	Huntington Beach, CA	Qlogic
Apr 3-7	Plenary	Palm Springs, CA	Brocade
Jun 5-9	Plenary	Boise, ID	HP
Aug 7-11	Plenary	* open *	??

Oct 2-6 Plenary Manchester, NH Hitachi
 Dec 4-8 Plenary Austin, TX Crossroads

2001

Feb 5-9 Plenary So. California Qlogic
 Apr 9-13 Plenary Palm Springs, CA Brocade

13.0 Review action items

The following action items were carryovers or were added at this meeting.

1. Roger Ronald to produce the minutes for this meeting.
2. Don Tolmie to update HIPPI-6400-OPT Rev 1.0 with the changes agreed to at the April meeting.
3. Joel Darnauer of SGI to perform SuMAC characterization at 1 GHz and report back to the committee with information on its performance.
4. Greg Chesson to work with Mark Donhowe, Arun Agarwal, and Mike Dudek on changing the jitter budget table in HIPPI-6400-OPT to reflect the separation of random and deterministic jitter.
5. All to continue discussions about Siemen's "MT connector problem presentation" at a future meeting.

6. Don Tolmie to include in HIPPI-6400-OPT, version 1.1, the information from Optobahn specifying the Table 5, 1300 nm optical parameters, using the same parameters as in Table 4 for 850 nm, i.e., "Received Optical Modulation Amplitude (min)" and "Average Received Power (max)".
7. Joel Darnhauer to provide a copy of his jitter presentation to Roger Ronald for inclusion on the web site.
8. Roger Ronald to resolve whether the .030 mW number received from Optobahn should be .031 mW

14.0 Adjournment

Greg Chesson moved and Mike Dudek seconded to adjourn at 7:25 PM on April 13th. There were no objections.

Attendance

Name	Status	Company	Phone	E_mail
Tad Szostak	O	3M Corp	512-984-3847	tszostak1@mmm.com
Mike Dudek	O	Cielco Communications	303-464-2247	mdudek@cielcoinc.com
David Hyer	A	Compaq Computer Corp.	978-493-6139	david.hyer@digital.com
Hari Naidu	O	Fujikura	408-988-7420	hari@fujikura.com
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Roger Ronald	P	Power Micro Research	972-437-9461	rronald@pmr.com
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