

Minutes of T11.1 HIPPI Ad Hoc Working Group

**February 15-16, 2000
Huntington Beach, CA**

1.0 Opening remarks and introductions

The T11.1 Chairman, Roger Ronald of Power Micro Research, opened this meeting at 1 PM and thanked Skip Jones and QLogic 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).

Roger lead a round of introductions. The list of attendees is at the end of these minutes. Roger volunteered to produce these minutes.

2.0 Review / modify the draft agenda

Draft agendas were distributed via the www.hippi.org web site before the meeting. There were no changes.

These minutes reflect the approved agenda.

3.0 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.

4.0 Review minutes of previous meeting

The minutes of the December 7-8, 1999, HIPPI Working Meeting in Reno, NV were reviewed.

Jeff Young moved and Ed Cady seconded, to approve the December, 1999 working meeting minutes as written.

The motion passed without objection.

5.0 Review old action items

The action items from the December 7-8, 1999 meeting were reviewed.

1. Roger Ronald to have the PMR HIPPI-6400 MIB developer contact Essential/ODS and Genroco to see if coordination of MIB work is feasible. **(Done)**
2. Jean-Michel Pittet to provide the IETF RFC number for "ARP and IP broadcast over HIPPI-800 (GSN)" to Don Tolmie and Roger Ronald. **(Carryover)**
3. Jean-Michael Pittet to provide information to the T11.1 group about the IETF RFCs and the communications with the IETF. **(Carryover)**
4. Greg Chesson to draft an IEEE tutorial on HIPPI-6400 ULA usage and the ULAs special to HIPPI-6400. **(Done)**
5. Greg Chesson to collect information for an "ST FAQ" html document. **(Carryover)**
6. Greg Chesson to draft a top-level structure for the ST-API document. **(Carryover)**
7. Jim Pinkerton to provide the SGI ST-API document for posting on the web site by 12/10/99. **(Done)**
8. Ian Philp to write down a minimum list of what can be supported via the direct TX/RX calls in the low level ST API. **(Carryover)**
9. Ed Cady to continue to provide the committee with information on progress towards a PCI version of the FCI-Berg Micropax connector. **(Done)**
10. Roger Ronald to update the ST Reliable Transfer Profile document. **(Done)**
11. Brad Allen to update version the HIPPI-800 to Ethernet bridging RFC. **(Carryover)**
12. Don Woelz to update the SST document. **(Done)**
13. Ed Cady to provide a TIFF file of the PCI connector to Roger Ronald and Don Tolmie. **(Done)**

14. Don Tolmie to incorporate the PCI connector drawings in the HIPPI-6400-PH amendment. **(Done)**
15. The Chair (Roger Ronald) to produce the minutes for the December, 1999 meeting. **(Done)**

6.0 HIPPI-6400-PH (ref: Rev 2.4)

6.1 EMI and Cable problems

Previous reports that SGI has succeeded in passing formal EMI tests were premature.

Although SGI had passed in certain limited circumstances, there was still a problem with passing in a general environment with multiple GSN adapters or with other adapter cards of a different type in the same chassis.

Because of the continuing problems in this area, there were many individuals in attendance for this topic.

A number of connector examples were brought to the meeting by SGI and FCI. SGI proposed that a new variant of the connector should be used for non-PCI systems (the connector backshell was too wide for workable PCI connections. This approach would eventually result in a HIPPI-6400-PH spec that contained three cable variants. These would be the existing version, the new SGI version, and a (yet to be developed) PCI version.

There was substantial debate on the wisdom of this approach. SGI eventually won the group over by noting that any other course of action would keep them from fielding an adapter for at least 6-12 months.

A straw poll was taken to add the new connector configuration to HIPPI-6400-PH. The motion passed with 15 in favor and zero opposed.

An action item was assigned to Don Tolmie for updating the HIPPI-6400-PH amendment to include the new SGI connector configuration.

Wally St. John also noted that SGI planned to patent several (3) features in the new connector configuration. The chair explained the ANSI/NCITS patent policy.

6.2 PCI/Cables/Connectors

There has also been an issue about connectors (board side) and cable ends that will properly mate in a PCI form factor.

While there had been some work in this area, the current consensus is that existing connector variants have no chance to pass FCC test in a PCI slot. SGI proposed that a new connector should be searched out and adopted.

Sean Rieb pointed out that the existing connector might be modified to a form that would work. The modifications would take the inner metal plates between the connector body and the backshell and close all gaps so that it would provide a circumferential shield. FCI agreed to look into this idea.

FCI also accepted an action item to test the existing and new connector configurations for relative shielding performance.

Wally St. John accepted an action item to place a message on the reflector to call for connector suggestions.

6.3 NuMAC Proposal

Roger Ronald presented some ideas about creation of a new physical layer at the July 99 meeting. The charts presented during the meeting were posted to the web page.

At the October meeting, representatives from Gennum talked about their capability to build components that might be suitable for a follow-on to HIPPI-6400. The Gennum technology used coaxial cables to achieve high data rates where distance was a factor of the coax cable size.

The group expressed interest in the Gennum technology. However, the presentation was not a specific proposal.

At the December 1999 meeting, Don Tolmie reported that Hansel Collins had a new project underway that would allow at least 2.6 Gbits/second on a single line and that wide parallel widths were feasible. The group expressed interest

Nothing further happened at this meeting.

6.4 Draft Amendment

PCI form factor cable/connector drawings have been received and Don Tolmie has added them into the document.

However, the results of this meeting have pointed out that the connector problem is not solved.

6.5 Draft Amendment Processing Plans

Since there has not been any closure on the connector situation, the HIPPI-6400-PH amendment will be held until further progress is made.

6.6 HIPPI-6400-SC (Rev 2.5)

6.7 Processing status

HIPPI-6400-SC Rev 2.5 has been approved as an ANSI standard

The ANSI editor has contacted Roger Ronald (the document technical editor) and the document editing is complete. However, due to a change in NCITS/ANSI policy, the editing is supposed to occur prior to balloting. Since this did not happen NCITS is insisting that the final version should incur another expedited round of balloting.

The management of T11 determined that a T11.1 ballot was not required and moved directly to a T11 letter ballot which occurred during the period between the August and October meetings. The ballot closed on 9/19/99 and passed with a vote of 71 yes, 0 no, and 4 not voting.

NCITS forwarded the final paperwork for ANSI "re-approval" on November 29th.

7.0 Scheduled Transfer (Rev 3.6)

7.1 Processing Status

The document (revision 3.6) was forwarded by T11.1 to T11 at the December meeting. T11 initiated a letter ballot at that meeting and the ballot closed on 1/21/00. The document passed with no comments and thus it will be forwarded to NCITS for further processing and public review.

7.2 Comments

There were no comments received

8.0 HIPPI-LE (reference Rev 3.7)

8.1 Processing Status

The main gating item before forwarding HIPPI-LE was inclusion of the RFC number for the "ARP and

IP Broadcast over HIPPI-800" RFC in clauses 4, 6.1.1 twice, and Annex B. According to Jean-Michel Pittet, the IETF RFC number should have been provided by now, but it was not.

At the December T11.1 plenary, the group indicated that the document needed to move forward and that removing the missing reference may be required and acceptable. A posting to the mail reflector indicated that there was support for removing the IETF references and moving forward. Since no objections were received on the reflector, Don Tolmie moved forward with a version of LE that did not have the IETF RFC numbers.

All changes were reviewed and accepted.

8.2 Other Proposed Changes

A call was made for anyone with requirements to change HIPPI-LE to come forward. No change proposals were made.

9.0 SCSI on ST Mapping

9.1 Document Review (ref: revision 1.3)

The latest version of SCSI on ST from Don Woelz was reviewed. Steph Bailey was in attendance, standing in for Don Woelz.

Virtually all of Don Woelz changes were accepted. During the document review a few minor items were also noted for needing editorial changes.

Steph Bailey also pointed out some areas where a figure or two might improve clarity. Open items for error codes and an IANA port number were assigned action items.

It was felt that the document might be ready for forwarding in June or August.

10.0 SGI Low Level API Proposal.

10.1 Document Review

Jim Pinkerton did not present a new document version. However he did suggest a few changes to the ST-API:

- The creation and destruction of MX values needs to be a separate call and not part of the "Map" call. MX_alloc and MX_free calls were suggested.

- Error numbers should follow the Linux convention and indicate errors with a negative value.

Jim Pinkerton accepted an action item to update the document within week of this (February, 2000) meeting.

10.2 Document Editing Plans

No plans were made to move the API into a "standards document" format. The group was willing to continue working on the material in its existing format.

11.0 ST Reliable Transfer Profile (ST-RTP)

11.1 Project Proposal

The ST-RTP proposal was passed to T11 for further processing during the December, 1999 T11 plenary session, passing 44,0,1 abstention

11.2 Document Review (revision 0.3)

Roger Ronald presented the third version of ST-RTP designed to limit implementations into working with a limited and well defined set of operations and parameter values.

Edits were reviewed. A few additional changes were made, but the tabular format seemed to be an easy one to work with.

Roger accepted an action item to incorporate the changes agreed to at this February, 2000 meeting.

12.0 Other HIPPI items

12.1 Bridging to HIPPI-800

There was no action on this topic during this meeting. An action item calling for the document to be updated is still outstanding.

12.2 ARP and IP Broadcast over HIPPI-800

Jean-Michel forwarded this document to the IETF in December and again in February. We are waiting to get an RFC number for this RFC, so that it can be added to the HIPPI-LE document as a reference. Although an RFC number was expected by this time, it has not been received.

Jean-Michael Pettit sent an e-mail to the reflector providing details and status about his dealings with

the IETF. However, this did not offer any insight as to when the draft might be moved to RFC status.

12.3 IP and ARP over HIPPI-6400 (GSN)

Jeff Young argued that the HARP packet format should be modified to provide proper byte alignment for variables. There was a lot of discussion on this topic, but the group approved the idea, conditional on Jeff making sure that the needed complementary document updates happened in a timely manner.

12.4 MIBS

The only MIB of general interest seemed to be a HIPPI-6400 switch MIB. In October, Roger Ronald accepted an action item to put PMR developers in touch with Essential/ODS and Genroco to see if any coordination could happen. Essential responded and will be moving forward in this area with PMR.

12.5 Tutorial for HIPPI-6400 ULA use

Roger Ronald completed this action item for Greg Chesson.

13.0 Future meeting schedule

13.1 Plenary week, April 3-7, San Diego, CA

The April Plenary week location is in San Diego, California. The hotel information is available on the www.hippi.org web site. The tentative schedule is as follows. Note that the optical session is still on Tuesday morning.

Tuesday 4/4	9 AM - 11 AM	HIPPI-6400-OPT
Tuesday 4/4	1 PM - 9 PM	HIPPI ad hoc
Wednesday 4/5	9 AM - 5 PM	HIPPI ad hoc
Wednesday 4/5	5 PM - 7 PM	T11.1 Plenary

We expect to continue following this basic schedule (meeting on Tuesdays and Wednesdays) for future plenary meeting weeks.

13.2 Future meeting dates and locations

The group continues to feel that interim meetings are not required.

2000

Apr 3-7	San Diego, CA	Brocade
Jun 5-9	Boise, ID	HP
Aug 7-11	Seattle, WA	Vixel
Oct 2-6	Manchester, NH	Hitachi
Dec 4-8	Austin, TX	Crossroads

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Feb 5-9	Huntington Beach, CA	Qlogic
Apr 5-9	San Diego, CA	Brocade
Jun 4-8	Chicago, IL	Ancor
Aug 6-10	Honolulu, HI	Solution Tech
Oct 8-12	San Diego, CA	JNI
Dec 3-7	Austin, TX	Crossroads

14.0 Review action items

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

1. Jean-Michel Pittet to provide the IETF RFC number for "ARP and IP broadcast over HIPPI-800 (GSN)" to Don Tolmie and Roger Ronald.
2. Jean-Michael Pittet to continue to provide information to the T11.1 group about the IETF RFCs and the communications with the IETF.
3. Greg Chesson to collect information for an "ST FAQ" html document.
4. Greg Chesson to draft a top-level structure for the ST-API document.
5. Ian Philp to write down a minimum list of what can be supported via the direct TX/RX calls in the low level ST API.
6. Wally St. John to post a call for PCI compatible connector suggestions on the hippi reflector.
7. FCI to test current and proposed connectors for relative shielding effectiveness.
8. FCI to consider modifications to the current connector to extend the inner plates between the connector body and backshell into a full circumferential shield.
9. FCI to send Don Tolmie information and drawings on the new SGI cable configuration.
10. Don Tolmie to update the HIPPI-6400-PH amendment to include the new SGI cable configuration.
11. Roger Ronald to update the ST Reliable Transfer Profile document.
12. Brad Allen to update version the HIPPI-800 to Ethernet bridging RFC.
13. Don Woelz to update the SST document.
14. Don Woelz to get an IANA well known port number for SCSI over ST.
15. Steph Bailey to propose error codes for SCSI over ST to the reflector.
16. Jim Pinkerton to send an updated ST-API to Roger Ronald for posting on the web site.
17. The Chair (Roger Ronald) to produce the minutes for the February, 2000 meeting.

15.0 Adjournment

Jeff Young moved and Bob Willard seconded a motion to adjourn the meeting on the 16th of February. There were no objections.

Attendance

Name	Status	Company	Phone	E_mail
Bob Willard	P	Compaq Computer Corp.	508-467-5875	bob.willard@compaq.com
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