

## Minutes of T11.1 HIPPI Ad Hoc Working Group

December 7-8, 1999

Reno, Nevada

### 1.0 Opening remarks and introductions

The T11.1 Chairman, Roger Ronald of Power Micro Research, opened this meeting at 12:30 PM and thanked Dave Deming, Solution Tech, and Transoft Networks 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](http://www.hippi.org) web site before the meeting. There were no changes.

These minutes reflect the approved agenda.

### 3.0 Review minutes of previous meeting

The minutes of the October 5-6, 1999, HIPPI Working Meeting in Ft. Lauderdale, FL were reviewed. There were no changes.

Mike Boorman moved and Don Tolmie seconded, to approve the October 5-6, 1999 working meeting minutes as written.

The motion passed without objection.

### 4.0 Review old action items

The action items from the October 5-6, 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. **(carryover)**

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. Greg Chesson to draft an IEEE tutorial on HIPPI-6400 ULA usage and the ULAs special to HIPPI-6400. **(carryover)**
4. Greg Chesson to collect information for an "ST FAQ" html document. **(carryover)**
5. Greg Chesson to draft a top-level structure for the ST-API document. **(Overcome by events)**
6. Greg Chesson to update the current SGI low level ST API document with agreed changes and provide it to Roger Ronald for posting on the web site. **(Overcome by events)**
7. 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)**
8. Don Tolmie to make the edits to the Scheduled Transfer document (rev 3.4) agreed to at the October, 1999 meeting. **(done)**
9. Eric Salo to update the level 0 ST API text with the changes agreed to at the May 1999 meeting. **(Overcome by events)**
10. Eric Salo to update the level 0 ST API text with the changes agreed to at the July 1999 meeting. **(Overcome by events)**
11. Eric Salo to specify field sizes in the ST API in accordance with the approach selected at the May, 1999 meeting. **(Overcome by events)**
12. Ed Cady or John Ellis to continue to provide the committee with information on progress towards a PCI version of the FCI-Berg Micro-pax connector. **(carryover)**
13. Bharat Tailor to provide copies of his Genum capabilities presentation for posting on the web site. **(done)**
14. Ed Cady to provide copies of his connector presentation for posting on the web site. **(done)**

15. Roger Ronald to post the final version of the SCSI on ST project proposal on the hippy web site. **(done)**
16. Roger Ronald to post the project proposal for the Reliable Transfer Profile for ST with agreed edits to the T11 and to the hippy web sites. **(done)**
17. Roger Ronald to update version 0.1 of the Reliable Transfer Profile for ST document. **(done)**
18. The Chair (Roger Ronald) to produce the minutes for the August, 1999 meeting. **(done)**

## 5.0 HIPPI-6400-PH (ref: Rev 2.4)

### 5.1 EMI and Cable problems

Bob Newhall (via Jim Pinkerton) had previously reported that SGI has succeeded in passing formal EMI tests.

This impediment to moving the HIPPI-6400-PH document forward has now been removed as Don Tolmie completed documenting the new configuration and the SGI attendees concurred that the change accurately recorded their EMI approach.

### 5.2 PCI/Cables/Connectors

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

Ed Cady of Berg reported that this work has been done and that engineering drawings now exist. Ed offered to provide these in Pro Engineer, AutoCAD, or TIFF formats. The format that the group asked for was TIFF and Ed accepted an action item to provide the file to Roger Ronald for posting on the web site. He also stated a plan to have prototypes built for EMI testing with the new configuration.

### 5.3 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 this 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 and there may be a presentation made at the next meeting.

### 5.4 Draft Amendment

Once the PCI form factor cable/connector drawings are received, Don Tolmie will add them into the document.

A call to ask for any further input on the project proposal calling for an amendment to change HIPPI-6400-PH was made. One request was made and Don responded by adding a couple of changed or new word definitions.

Since these definition changes are quite minor, Don plans to use a change list for this information rather than a change page.

### 5.5 Draft Amendment Processing Plans

The cable issue is now largely resolved and we are close to moving forward on processing the draft amendment.

## 6.0 HIPPI-6400-SC (Rev 2.5)

### 6.1 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 3.5 and 3.6)

### 7.1 Review general document changes

Changes were reviewed and generally accepted.

### 7.2 Other Changes

SGI attendees noted that the use of all "FFFFFFFF"s for the BSEQ value keeps it unclear whether or not there is

- no Transfer state; or
- whether the Transfer is active and no Block has yet been received.

Various options for resolving this uncertainty were debated. Eventually, the group decided to resolve the issue by adding a flag (out-of-order) that indicated "no Blocks received for this Transfer".

A second issue involved the correct setting for the Sync value when a Request\_Status\_Response was sent in response to S=1 in an RTS. The document now states that all "FFFFFFFF"s is required in this case.

### 7.3 Processing plans

All of the above changes were incorporated into a new revision (3.6) of ST during the meeting. The working group reviewed the new document and decided that ST, version 3.6 should be forwarded to T11.1 and T11 for further processing.

## 8.0 HIPPI-LE (reference Rev 3.7)

### 8.1 Processing Status

The main gating item before forwarding HIPPI-LE is 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 Pitet, the IETF RFC number should have been provided by this meeting, but it was not. Therefore, there was no progress made.

At the T11.1 plenary, the group indicated that the document needed to move forward and that removing the missing reference may be required and acceptable.

## 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.

Most changes were editorial, there were a few areas where additional detail seemed called for. Generally, the document seems to be making good progress.

Don also noted that the T10 group had recommended incorporation of some new versions of SCSI standards. There was some concern that larger formats called for in these specifications might not fit into the transport mechanisms that SCSI on ST currently defined. Don met with Steph Bailey to resolve these concerns and Steph indicated that most new behaviors/features were optional and should not impact this document. Subsequent revisions might be needed if the new functionality provided by the new SCSI versions was desired.

## 10.0 SGI Low Level API Proposal.

### 10.1 Document Review

There was no new version of the document to review. Consequently, no progress was made towards document completion.

### 10.2 Document Editing Plans

It has not been clear that anyone is willing to do what is needed to make the Level 0 ST API into a standard. No work has been done in this area for many months.

In light of the slow progress, a discussion of alternatives was held. Roger Ronald noted that the opportunity to achieve API commonality was fading fast. Jim Pinkerton noted that he had a SGI API document, but that it was not in standards format.

Given the situation, the group felt it advisable to request the SGI specific API. While this was not

direct input towards a standard, it was felt to be more helpful than nothing at all.

Jim Pinkerton agreed to provide the document, minus some SGI proprietary information by December 10th.

There was a general consensus that this approach was desirable and that posting this information on the web site might achieve much of the goals of a standard without much additional effort and commitment (qualities that have been notably hard to find)

## 11.0 ST Reliable Transfer Profile (ST-RTP)

### 11.1 Project Proposal

Roger noted that this proposal would be passed to T11 for further processing during this week's plenary session. (and it was presented, passing 44,0,1 abstention)

### 11.2 Document Review (revision 0.2)

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

Roger accepted an action item to incorporate the changes agreed to at this December, 1999 meeting.

## 12.0 Other HIPPI items

### 12.1 Bridging to HIPPI-800

A new version of the bridging document was provided at the October meeting. However, Nicolas Droux was not in attendance at that meeting, so there was no progress on the subject.

At this meeting, Brad Allen was in attendance and led a review of the bridging document. This document is still early in the editing process, so there were quite a few changes. Brad accepted an action item to incorporate the changes agreed to at this December, 1999 meeting.

### 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.

Due to the long lack of progress on this item and the next, the chair was directed to give Jean-Michael Pettit an action item to provide details and status about his dealings with the IETF.

### 12.3 IP and ARP over HIPPI-6400 (GSN)

An electronic copy of this document is still needed for posting on the web site.

During the April, 1999 meeting, Jean-Michel was present to defend his current HARP approach and successfully defended keeping the documents unchanged; at least until they moved forward in the IETF process. He noted that the offending "extra" packet formats disliked by some (requiring HIPPI-6400 hosts to know HIPPI-800 formats) could easily be removed per IETF rules at a later date, but that adding the format back would be difficult if it were really needed.

Nothing further at this meeting.

### 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.

### 12.5 Tutorial for HIPPI-6400 ULA use

Greg Chesson has obtained the format material from Bob Snively of Sun. Drafting of the actual text is pending. Greg verified that this item is not holding up forwarding ST.

## 13.0 Future meeting schedule

### 13.1 Plenary week, February 14-18, Huntington Beach, CA

The February Plenary week location is in Huntington Beach, California. The hotel information is available on the [www.hippi.org](http://www.hippi.org) web site. The tentative schedule is as follows. Note that the optical session is still on Tuesday morning.

Tuesday 2/15	9 AM - 11 AM	HIPPI-6400-OPT
Tuesday 2/15	12:30 PM - 9 PM	HIPPI ad hoc

Wednesday 2/16 9 AM - 5 PM HIPPI ad hoc

Wednesday 2/16 5 PM - 8 PM T11.1 Plenary

The plenary has been moved up one hour to maximize the opportunity for free food (since most of the T11 receptions are held at 6 PM).

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 Plenary San Diego, CA Brocade

Jun 5-9 Plenary Boise, ID HP

Aug 7-11 Plenary Seattle, WA ?

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

### 14.0 Review action items

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

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.
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.
3. Jean-Michael Pittet to provide information to the T11.1 group about the IETF RFCs and the communications with the IETF.
4. Greg Chesson to draft an IEEE tutorial on HIPPI-6400 ULA usage and the ULAs special to HIPPI-6400.

5. Greg Chesson to collect information for an "ST FAQ" html document.
6. Greg Chesson to draft a top-level structure for the ST-API document.
7. Jim Pinkerton to provide the SGI ST-API document for posting on the web site by 12/10/99.
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.
9. Ed Cady to continue to provide the committee with information on progress towards a PCI version of the FCI-Berg Micropax connector.
10. Roger Ronald to update the ST Reliable Transfer Profile document.
11. Brad Allen to update version the HIPPI-800 to Ethernet bridging RFC.
12. Don Woelz to update the SST document.
13. Ed Cady to provide a TIFF file of the PCI connector to Roger Ronald and Don Tolmie.
14. Don Tolmie to incorporate the PCI connector drawings in the HIPPI-6400-PH amendment.
15. The Chair (Roger Ronald) to produce the minutes for the December, 1999 meeting.

### 15.0 Adjournment

Jeff Young moved and Sean Rieb seconded a motion to adjourn the meeting at 2:15 PM on the 8th of December. There were no objections.

## Attendance

<b>Name</b>	<b>Status</b>	<b>Company</b>	<b>Phone</b>	<b>E_mail</b>
Brad Allen	P	Essential / ODS	505-344-0408	ballen@esscom.com
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Donald Woelz	P	Genroco, Inc.	414-644-2505	don@genroco.com
Tom Torrico	O	IBM	512-838-3986	torrico@us.ibm.com
Mike Boorman	A	Los Alamos National Lab	505-667-8503	tmb@lanl.gov
Roger Ronald	P	Power Micro Research	972-437-9461	rronald@pmr.com
Greg Chesson	P	SGI	650-933-3496	greg@sgi.com
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