Minutes of X3T11 HIPPI SWG, and HNF - Technical Committee (TC)
April 4, 1995
Monterey, California

1. Opening remarks and introductions

The Chairman, Don Tolmie of Los Alamos National Laboratory, opened the meeting at 1:15 pm and thanked Gary Rara and National Semiconductor for hosting this meeting. This group is constituted as both the HIPPI special working group (SWG) under X3T11, and the HIPPI Networking Forum (HNF) - Technical Committee (TC). Don then lead a round of introductions.

The meeting attendees were:

Michael Griffin	3M Company
Dick Wilson	Avaika Networks
Arie van Praag	CERN
Barry Gleaton	Chi Systems
Heino Peters	Deutsches Klimarechenzentrum
Michael McGowen	Essential Communications
Roger Ronald	E-Systems
Francois Gaullier	Hewlett-Packard
Don Tolmie	Los Alamos National Lab
Stephen Quan	NASA Ames Research Center
Von Welch	NCSA
Brian Falk	NetStar
Gene Hightower	Pacific Title Digital
Ken Sandberg	Pacific Title Digital
Ken Powell	Silicon Graphics
Peter Haas	University of Stuttgart

Don Tolmie agreed to take the meeting minutes. These minutes reflect the items on the approved agenda.

2. Approval of the Agenda

A draft agenda was distributed before the meeting via e-mail. Items added at the meeting were:

6.5 HIPPI-Serial optical connector
14.1 New HIPPI-FP ULP-id's

These minutes represent the approved agenda.

3. Review Minutes of Previous Meeting

The minutes of the X3T11 HIPPI SWG / HNF - TC meeting of February 8, 1995, in Sarasota, Florida, were reviewed. Michael McGowen moved, and Dick Wilson seconded, to accept the minutes as written. Passed unanimously. It was later noted that the location of the meeting was Sarasota, Florida, not Sarasota, California.

It was suggested that the minutes be made available on the WWW. Don Tolmie took an action item to investigate this. Brian Falk has some software that he will make available to Don to convert Microsoft Word format to html.

4. Review of old Action Items

The action items from the February, 1995, meeting were reviewed for the current status.

1. Jim Toy of Broadband Communications – Draft appropriate wording for the relative positions of the CONNECT and READY signal changes in the HIPPI-Serial serial stream. (Done)
2. Michael McGowen of Essential Communications – Propose simplified text making HIPPI-Serial implementations conform to the HIPPI-PH specifications as far as the CONNECT-to-READY and BURST-to-BURST timing is concerned. (Done)
3. Jim Toy of Broadband Communications – Draft text for HIPPI-Serial to make the Overhead bits optional instead of mandatory. (Done)
4. John Renwick of NetStar – Talk to Phil Cameron of Essential Communications about revising the HIPPI end-point MIB and then resubmitting it to IETF. (Carryover)
5. Michael McGowen of Essential Communications – Further the address self-discovery work based on the John Renwick's proposal. (Carryover)
6. Michael McGowen of Essential Communications – Obtain whatever addresses identifiers are needed for SNMP to work with the HIPPI MIBs. (Done)
7. Avaika to support their HIPPI-SC broadcast proposal at the next meeting, or the topic will be dropped from future agendas. (Proposal dropped by Avaika, see 9.2.)
8. Michael McGowen for Essential Communications – Contact vendors with APIs about using their APIs as the basis for a standard HIPPI API. (Ongoing)
9. Don Tolmie of Los Alamos – Make the approved changes to HIPPI-ATM concerning striping and use of the OAM loop back cells. (Done)

10. Don Tolmie of Los Alamos – Investigate a single-wide / double-wide mapping for HIPPI-ATM. (Done)
11. Don Tolmie of Los Alamos – Flesh out the proposal for HIPPI-MFP some more. (Carryover)

5. Reaffirmation, withdrawal, or modification of ANSI X3-183, HIPPI-PH

Don Tolmie explained that the ANSI rules require a standard to be reviewed every five years, and this is the year to review ANSI X3.183-1991, HIPPI-PH. Our choices are to (1) reaffirm with no changes, not even dotting "i's" or crossing "t's", or (2) to modify with editorial and/or technical changes, or (3) to withdraw as obsolete and no longer needed. Possible changes included the pseudo-code changes recommended by Erik van der Bij of CERN in 1991 when HIPPI-PH was in its last stages of approval as a standard. Erik's comments had been determined at the time to be desirable, but not fatal. A worry was expressed that pseudo-code change at this time may invalidate some HIPPI implementations or confuse implementors. There were no other major changes identified for HIPPI-PH. Changes would require a new SD-3 Project Proposal, and would also open the door to other changes. Michael McGowen moved, and Roger Ronald seconded, that X3T11 be requested to take the appropriate steps to reaffirm ANSI X3.183-1991, HIPPI-PH. Passed unanimously.

6. HIPPI-Serial

6.1 Forward SD-3 Project Proposal for HIPPI-Serial Standard, or leave it as a Technical Report

At the February X3T11 Plenary, a vote to process ESCON as a standard succeeded. In a sense of fairness, Dal Allan of ENDL and Paul Rupert of Lawrence Livermore, suggested that HIPPI-Serial may also want to be processed as a standard rather than as an X3 Technical Report. Don Tolmie reported that the SD-3 Project Proposal for HIPPI-Serial as a Technical Report had been approved as project 1117-DT. Don passed out a draft SD-3 Project Proposal for a HIPPI-Serial standard. Arie van Praag noted that there was a lot of interest in Europe in processing HIPPI-Serial as a standard. By a unanimous vote, the group approved processing HIPPI-Serial as a Standard, and forwarded the new SD-3 Project Proposal to X3T11 for further processing.

6.2 Short-wavelength optics

In the HNF Plenary, Jim Toy of Broadband Communications said that some concern has been raised about using the short-wave optics with long run-length codes -- and HIPPI-Serial has a run length of 33 bits. For comparison, the majority of the short-wavelength testing has been done with the Fibre Channel 8b/10b coding with a run length of about 5 bits. This needs to be resolved.

6.3 Proposed wording for HIPPI-PH conformance

A problem with the relative timing between the CONNECT and READY signals showed up at Supercomputing'94 in November. Proposed clarifying text for HIPPI-Serial was discussed at the February Sarasota meeting, and was deemed too detailed. Don Tolmie put new text in 5.8 of HIPPI-Serial, Rev 1.3, and this text was reviewed. While the text proposed in Sarasota was deemed too detailed, the proposed text in Rev 1.3 was deemed too skimpy. On-line word-smithing was tried, but no consensus was reached. The text is trying to cover all of the HIPPI-PH electrical and timing conformance, not just the CONNECT and READY signals. Don took an action item to try again.

6.4 Review HIPPI-Serial Rev 1.3

At this meeting, Don Tolmie distributed the first ANSI-style draft of HIPPI-Serial, Rev 1.3, March 27, 1995. He noted that this document had been converted from Framemaker to Microsoft Word, and contained lots of changes to put it into ANSI style. For example, adding lots of "shall's". The short-wavelength optics section has not been included yet. Everyone was requested to review the document and get comments back to Don.

6.5 Optical connector

Brian Falk raised the question of why there were no specifications for the optical connector, only recommendations, and why there were so many optional connector types. Brian Falk moved, and Stephen Quan seconded, to remove the FC/PC and Super FC/PC optional connectors from HIPPI-Serial. Roger Ronald moved, and Brian Falk seconded, to table the motion until the rest of the HNF attendees were present. Motion to table passed unanimously.

7. IETF related items

7.1 RFC 1374

Michael McGowen reported that Essential Communications has implemented the ARP Broadcast Server of RFC 1374, and felt that they were probably the first implementation. Hewlett-Packard has done the Name Server of RFC 1374. There have been recent e-mail notes describing time out problems that may affect the RFC. Since John Renwick of NetStar was not present, further action was deferred.

7.2 HIPPI MIB

John Renwick of NetStar was not present, and there was nothing new to report.

8. Network Management

8.1 Address self-discovery

Michael McGowen reported that Essential Communications has implemented a pseudo broadcast address self-discovery. He is willing to go forward with this information in some document, i.e., it may be an IETF document or somewhere else. Michael will also look at Renwick's earlier address self-discovery proposal.

8.2 HIPPI-SC Auto

Michael McGowen reported that he has not received any comments on the document yet. There is concern that whatever we specify should not obsolete existing switches. We need an ARP document, and the users need to insist that the switch vendors implement the ARP.

9. HIPPI-SC

9.1 Proposed wording for HIPPI-PH conformance

The proposal is to base the wording in HIPPI-SC on the wording agreed to for HIPPI-Serial, which is still under discussion. (See item 6.3.)

9.2 Support for broadcast

Dick Wilson stated that the broadcast feature has been determined to be very application oriented and needs to be tailored to fit the specific system requirements. Hence, it is not appropriate for a standard. As a result, Avaika withdrew their previous proposal to include a broadcast capability in HIPPI-SC.

10. HIPPI API

Ken Powell took an action item to investigate the possible use of the Silicon Graphics HIPPI API as a starting point. Michael McGowen said that Phil Cameron of Essential Communications will be reviewing the API that Fore Systems uses for ATM. Stephen Quan took an action item to get the address where the Fore API is located.

11. Review HIPPI-ATM changes in Rev 1.5x

Don Tolmie reported that the approved changes concerning striping and use of the OAM loop back cells have been included in Rev 1.5x, February 24, 1995. Don was also able to accommodate NetStar's request for an easy translation between 800 Mbit/s and 1600 Mbit/s HIPPIs linked by a HIPPI-ATM interface. An later e-mail comment from NetStar requested consideration of using a larger PDU across the ATM link for higher efficiency. Don commented that a larger PDU would require a larger Burst_Length field, and we were running out of reserved bits in Word 0 of the header. A suggestion to specify different granularity for the Burst_Length field was made, and will be pursued. Brian Falk took an action item to present the concept to the NetStar designers and relay comments to Don.

12. Higher speeds by using multiple HIPPI-FP lower layers

The proposal in Sarasota envisioned a segmentation and reassembly (SAR) protocol sitting above multiple HIPPI-FP entities. Don Tolmie reported that no further refinement of the proposal has occurred. The recommendations from the Sarasota meeting were reviewed, and reaffirmed. Namely, that how you determine and control the path width between end devices is outside the scope.

13. Speeds in the 8x to 10x range

Nothing done at this meeting.

14. Other items

14.1 New HIPPI-FP ULP-id's

Michael McGowen inquired about the possibility, and mechanisms, for registering new ULP-id's. Don Tolmie outlined the procedure now in process to amend HIPPI-FP, and stated that the majority of the amendment involved registering ULP-id's. This same procedure could be used again.

15. Future meeting schedule

The next meeting of the X3T11 HIPPI SWG / HNF Technical Committee, will be Tuesday, June 13, 1995, 1 PM to 5 PM, at the Raddison Plaza Hotel, Rochester, Minnesota, phone (507) 281-8000, or (800) 333-3333. Refer to "ANSI X3T11" when making your reservations to get the group rate of $78.10 single or double, including taxes. The cutoff date for reservations is May 22.

Future 1995 meetings, and hosts, are scheduled for:

Aug 8	Tarrytown, NY	IBM
Oct 3	Toronto, Canada	HP-Canada
Dec 5	San Diego	??

1996 meetings are currently scheduled for:

Feb 6	??	??
Apr 10	Palm Beach, CA	Western Digital
June 11	Santa Fe, NM	Los Alamos
Aug 6	Boulder, CO area	StorageTek
Oct 8	St. Petersburg Beach, FL	AMP
Dec 3	San Diego, CA	??

16. Review action items

1. John Renwick of NetStar – Talk to Phil Cameron of Essential Communications about revising the HIPPI end-point MIB and then resubmitting it to IETF.
2. Michael McGowen of Essential Communications – Further the address self-discovery work based on the John Renwick's proposal.
3. Michael McGowen for Essential Communications – Contact vendors with APIs about using their APIs as the basis for a standard HIPPI API.
4. Don Tolmie of Los Alamos – Flesh out the proposal for HIPPI-MFP some more.
5. Don Tolmie of Los Alamos - Look into making the minutes available on the WWW.
6. Don Tolmie of Los Alamos - Request that X3T11 take the appropriate steps to reaffirm ANSI X3.183-1991, HIPPI-PH.
7. Don Tolmie of Los Alamos - Request that X3T11 forward the SD-3 Project Proposal for HIPPI-Serial as a Standard to OMC.
8. Don Tolmie of Los Alamos - Propose wording for HIPPI-Serial conformance to HIPPI-PH electrical and timing specifications.
9. Don Tolmie of Los Alamos - Contact Hewlett-Packard about complying with the ANSI patent statement for the 20b/24b coding used in HIPPI-Serial.
10. Ken Powell of Silicon Graphics - Investigate the possibility of using the SGI HIPPI API as the starting point for a standard HIPPI API.
11. Phil Cameron of Essential Communications - Consider the use of the Fore Systems API for ATM as the starting point for a standard HIPPI API.
12. Stephen Quan of NASA Ames - Get the ftp address where the Fore API is located.
13. Brian Falk of NetStar - Present the concept of variable granularity in the HIPPI-ATM Burst_Length field to the NetStar designers and relay comments to Don Tolmie.

17. Adjourn to the HNF plenary meeting

The meeting was adjourned at 5:00 pm. An HNF Plenary meeting wrap-up immediately followed.

A summary of the HNF-TC meeting was presented to the HNF people who had been in the HNF Marketing meeting, and the marketing meeting also presented a summary of their meeting.

The tabled item about HIPPI-Serial optical connectors was reopened. Jim Toy said that current Serial-HIPPI Extenders use all of the connectors listed, i.e., SC, ST, and FC, and the customer's choice is usually based upon existing practice at the user's site. Jim suggested deleting the Super FC/PC connectors as optional connectors – today they exhibit the same characteristics as the normal FC/PC connectors. Specifying different connectors for long-wave and short-wave optics would nicely differentiate between them. Francois Gaullier suggested using SC connectors for short-wave optics to be compatible with the ATM Forum and Fibre Channel. Specifying only a single connector type would invalidate some current implementations, and may work a hardship for future implementations – a recommendation may be better. Brian Falk moved, and Don Tolmie seconded, to (1) remove the Super FC/PC connector from the list of optional connectors, (2) to recommend duplex SC connectors for short-wavelength optics, and (3) to recommend ST connectors for long-wavelength optics. Passed unanimously.

Notes from X3T11 Plenary following the HNF-TC

The X3T11 Plenary meet the next day, i.e., April 5. HIPPI related items are reported here for your convenience, the definitive record is the X3T11 minutes.

Additional ISO comments on HIPPI-PH as ISO/IEC standard 11518-1 were received. This is the last step in the international processing. Don Tolmie will respond to the comments, and modify the international document if necessary.

A motion to have X3T11 take the appropriate actions to reaffirm ANSI X3.183-1991, HIPPI-PH, was postponed until the June plenary. This was to give the X3T11 Chairman, Roger Cummings, a chance to check with OMC to see if this action is indeed needed at this time.

The SD-3 Project Proposals for an Amendment to the existing HIPPI-SC standard was approved by OMC and assigned project number 818-R.

The SD-3 Project Proposal for an ANSI X3 Technical Report for HIPPI-Serial was approved by OMC and assigned project number 1117-DT.

The motion to forward the SD-3 Project Proposal for HIPPI-Serial as a standard passed with a roll call vote of 39 for, 3 opposed, and 16 absent. (When, and if, this is approved, then the project for a Technical Report will be withdrawn.)

It was noted that there may be a problem with holding the December 1995 X3T11 meetings in San Diego. The intent had been to coordinate with Supercomputing'95. A meeting fee may be charged, the meetings may be moved to Orange County, or something else may happen. This may or may not affect the HNF meetings, which are usually held in conjunction with the X3T11 meetings.