IEEE 802.5

November 10th - 14th, 1997
Montreal, Quebec

Minutes of Meeting 'EE'

Neil Jarvis, Recording Secretary (Acting)

SilCom (A Microvitec Group Company), R'n'D, York, UK

Neil.Jarvis@mail.york.microvitec.co.uk
http://p8025.york.microvitec.co.uk

Revision History		
v1.0	15 Nov 97	End of recording
v1.1	18 Nov 97	First release
v1.2	20 Nov 97	Fixed attendees

Attendees.

George Lin	3Com	Peggy Dimauro	Novacom
Ivan Reede	Amerisys	Bo Thomsen	Olicom
John Hill	AMP	Ivar Jeppesen	Olicom
Karl Reinke	Bay Networks	Jens Andreassen	Olicom
Bob Hubbard	Cisco	Brian Buckmeier	Pulse
Ivan Oakley	Cisco	Keith Luke	Pulse
Terry Mackown	GEC Plessey Semiconductors	John Messenger	SilCom
		Neil Jarvis	SilCom
Bob Love	IBM	Stan Kmiec	SilCom
Ken Wilson	IBM	Mick Hanrahan	Texas Instruments
Tam Ross	IBM	Richard Todd	Treseq
Andy Fierman	Madge	Scott Valcourt	University of New Hampshire
Dave Wilson	Madge		
Simon Harrison	Madge	Colin Smyther	University of Sheffield
Edgardo Laber	Micro Linear		
Avishay Noam	Novacom	Hamlet Abedmamoore	Valor

Agenda.

MONDAY 10th November 1997

9:00am	11:30am	HSTR Straw Man review
		Trade Up Proposals (Ivar Jeppesen)
11:30am	1:00pm	Lunch
1:00pm	3:15pm	802 Opening Plenary
3:30pm	6:00pm	802.5 Opening Plenary (Galeria 3)

        Welcome and Introductions
        Request for volunteers for Working Group officers
        Approval of Agenda for this meeting
        Vice Chair Report <Some LMSC Rules>
        Status Update on publication of 802.5j, r, and REV
        Review and Approval of Minutes for Meeting dd.
        Status on Study Group Efforts
        Proposed Schedule for Standards Development
        Liaison Reports
        SEC meeting feedback
        New Business

TUESDAY 11th November 1997

8:30am	11:00am	HSTR PARs (100 Copper, 100 Fiber, Gigabit)
		Review
		Refine
		Straw Vote on each criteria
11:45am	12:15pm	SC25/WG3 High Performance Cabling update (Dr. Alan Flatman)
12:15pm	12:30pm	Gigabit Ethernet Connectors (Ed Cady)
12:30am	1:45pm	Lunch
1:45pm	5:00pm	HSTR PARs (100 Copper, 100 Fiber, Gigabit)
		Conclude voting

WEDNESDAY 12th November 1997

9:00am	Noon	HSTR PARs
		Rework
Noon	1:30pm	Lunch
1:30pm	3:45pm	HSTR PARs
		Voting
3:45pm	4:30pm	MAINTAINANCE
		FR_MAC Presentation (N Jarvis)
4:30pm	5:00pm	RMII presentation (Bill Bunch)
5:15pm	5:45pm	MAINTAINANCE
		Discuss developing PAR for merging the 3 standards coming from 802.5r, 802.5j, and 802.5REV

THURSDAY 13th November 1997

8:30am	9:00am	IPv4 Multicast over Token Ring (Bob Hubbard)
9:00am	10:10am	HSTR 100c Straw Man review - PHY Issues
10:30am	11:45am	HSTR PARs
11:45am	1:15pm	Lunch
1:15pm	5:00pm	802.5 Closing Plenary
		Set schedule for circulation of 100c Straw Man for comments
		Voting rights, Mick Hanrahan
		Choice of Interim meeting location and dates

Decision how to proceed with merger of r, j, and REV
Review and Approval of Minutes for Meetings dd and DD
E-Mail lists
Liaison Reports and assignments
New Business and Wrap up

7:00pm   M'night   802 Executive Meeting

FRIDAY 14th November 1997
8:00am   Noon   802 Closing Plenary
9:00am   Noon   HSTR 100c Straw Man review

Except for Monday morning and Wednesday morning, all 802.5 sessions will be plenary sessions

Document List.

Number/ Release	Description	Author	Comments
11-00	Document List: 802.5 November 97 Plenary	Neil Jarvis	-
11-01r3	802.5 Preliminary Agenda for Nov97 Plenary	Mick Hanrahan Neil Jarvis	Updated at meeting
11-02r4	PAR: 100 Mbit/s Token Ring over copper	Committee	Updated at meeting
11-03r4	PAR: 100 Mbit/s Token Ring over fiber	Committee	Updated at meeting
11-04r4	PAR: Gigabit Token Ring	Committee	Updated at meeting
11-05	PAR Guidelines	Jim Carlo	-
11-06r3	5 Criteria: 100 Mbit/s Token Ring over copper	Committee	Updated at meeting
11-07r3	5 Criteria: 100 Mbit/s Token Ring over fiber	Committee	Updated at meeting
11-08r3	5 Criteria: Gigabit Token Ring	Committee	Updated at meeting
11-09	3 HSTR PARs: Revised submission to NesCom	Bob Love	**Obsoleted** by 11-02r2, 11-03r2 and 11-04r2
11-10	HSTR Strawman	Ken Wilson, Tam Ross, Neil Jarvis	Release 0.3 of the Strawman PDF files
11-11	FR, FR_MAC, FR_MAC_INV and frame processing	Neil Jarvis	-
11-12	HSTR Trade Up Proposal	Ivar Jeppesen	-
11-13	LMSC Voting Rules	Mick Hanrahan	-
11-14	Implementation of IEEE P802.1p/Q on IEEE 802.5 Media	Jeff Lynch and Anoop Ghanwani	-
11-15	High Speed Token Ring tutorial	Scott Valcourt	-
11-16	Copper style 2 connectors	Ed Cady	-
11-17	SC25/WG3 High Performance Cabling update	Alan Flatman	-
11-18	IPv4 Multicasting over Token Ring	Bob Hubbard	-
11-19	RMII Consortium	Bill Bunch	-
11-20	Business Cards	Neil Jarvis	-
11-21	Closing Plenary 802.5 Report	Neil Jarvis	-
11-22	Working Group Rule proposal	Mick Hanrahan	-
11-23	Yet another proposal for HSTR-F	Karl Reinke	-
11-24r2	Responses to PAR comments	Committee	-
11-25	Responses to HSTR Tutorial comments	Committee	-
11-26	Meeting 'DD' minutes	Paul Gessert	-
11-27	Meeting 'dd' minutes	J Messenger	-
11-28	Madge customer survey summary	Madge	-
11-29	Flow Control	Ken Wilson	-
11-min	Meeting 'EE' minutes	Neil Jarvis	This document.

DAY 1, Monday

Introduction.

Welcome to Montreal.

HSTR Speed Trade Up, Ivar Jeppesen [11-12].

Congratulations to Air France for losing the hard copies of this proposal.

The situation:
>   C-Port doing parallel detection.
>   Station alternates between trying to join at 4/16 or 100 (while in Bypass).

Station, operating initially at 4/16 Mbit/s sends the REG_REQ MAC frame to indicate that it is 100Mbit/s capable.
C-Port responds with REG_RSP, also containing an indication that it is 100Mbit/s capable.

The C-Port returns to PREG, and the Station starts again from bypass at 100Mbit/s.

This proposal changes:
>   AP_REQ subvector
>   AP_RSP subvector

This will not replace any auto-negotiation schemes that may be implemented using 100BASETX.

This proposal only works if the link is operational. So it will not solve the problem of two entities thrashing between different speeds and modes, and never establishing an active link.

More time is required to define what auto-negotiation is required and how.
[Unresolved]

HSTR Phantom Support, Dave Wilson.

When a station received a REG_RSP, it does not know what the C-Port supports in terms of phantom detection/wire fault load provision, except that it support the Station's implementation of phantom/wire fault detect.

This information could be used to conditionally send RMV_ALRTs or drop phantom to close a station. If however the station sends the RMV_ALRT frames and then drops phantom, everything is OK. So the Station does not really need to know what mode the C-Port is in.
[Resolved]

PHY Issues, Tam Ross.

IDLE violations detection was thrown out. **[Resolved]**

50ppm vs. 100ppm. Clause 9.8 will specify +/- 50ppm for 100Mbit/s operation. **[Resolved]**

What shall we do about the 9 pin D Shell connector? Proposal is that the connector connections are specified, but the impedance of the cabling would not be mentioned (100Ω or 150Ω). It should also be in the base standard, in clause 7. This requires a maintenance PAR. Add 9 pin D shell to 9.8 **[Resolved]**

PS_CONTROL.request(Hard_reset) is no longer required. **[Resolved]**

How does this affect the MAC transitions? Neil suggested that we could fudge the issue, and say that the PHY is up before the MAC starts, just like 4/16 Mbit/s. **[Unresolved - see Friday]**

802.5 Opening Plenary.

Neil Jarvis was once again volunteered to act as recording secretary for this meeting.

Bob Love: We need to generate the necessary administration required to publish HSTR standards (PARs), in addition to the technical work being carried out. Thank you to Scott Valcourt for planning to present the HSTR PARs during a tutorial tomorrow evening. Technical expertise is requested to be present to assist during the tutorial. Mick/Neil to capture any concerns raised by other committees.

Introductions were made. Business cards to Neil.

Call for HSTR patents to be notified to the chair.

Modified agenda is approved without opposition.

Mick Hanrahan gave a presentation on LMSC voting rules [11-13]. Bob Love is proposing attendance of a third meeting to start LMSC voting rights. Discussion tabled until Thursday. **[Tabled]**

802.5REV has gone through first pass, and will go to key people for review (NAJ, DWW, KTW, RDL)
802.5r and 802.5j are being released in one document.
It would be more appropriate to publish REV, r and j in one document, but not merged.
Bob to talk to Valerie. **[Deferred]**

Bob's notes from SEC:

Include within the scope of the 3 HSTR PARs: minimise MAC changes from 802.5.
Rename title of 100 Mbit/s Fiber PAR:
"Multimode Fiber Physical Layer Specification for 100 Mbit/s Token Ring operation" **[Concern raised - deferred]**
Demand from some Exec members that each of the 5 criteria be voted on separated in order to "not trivialise the 5 criteria by voting for them en-mass".
Explicitly show the number of participants that will actively participate in the creation of each standard through at least one of the following:
1. Editing the document
2. Reviewing the draft
3. Analysis of technical details
4. Contributions of technical input for incorporation into the standard through technical papers at meetings, and participation in e-mail discussion.
Bob needs two names of people voting as 802.3 voters on 802.3ac ballot. **[John Messenger and Ivan Oakley]**
Each chair needs to have its own web page - we need HTML page for 802.5. The pointer can be to an IEEE page or to somewhere else. Web pages uploads to spa-admin@ieee.org, sometime in 1998, direct uploads will be possible. **[John Messenger and SilCom UK]**
802.1 Wednesday AM plenary: VLAN tagging to review Sunday discussion, and Architecture and Overview document. This may not be enough to justify a Wed. AM plenary.

Strawman v0.5 will go out for review after this meeting for a round of reviews, which will be handled in the normal 802.5 manner. **[Bob Love will provide header and footer text for this draft]**

Proposed Schedule for High Speed Token Ring Standards Development Task:

Task	Date
Exchange of Information on Draft and Issues (ongoing)	SEP 97
HSTR Marketing Meeting (no Technical session)	15-SEP-97
HSTR Alliance Technical Session	week of 22-SEP-97
Preliminary PAR approved by electronic vote and sent to Exec committee	01-OCT-97
First Pre-draft available (100BaseTX) for committee discussion	13-OCT-97
Comments due back	27-OCT-97
First unapproved draft (100BaseTX) avail for committee discussion	31-OCT-97
Tutorial on HSTR at 802 Evening Session	11-NOV-97
PARs approved by 802.5 Working Group	12-NOV-97
Agreement reached on Technical Approach (100BaseTX)	13-NOV-97
PARs approved by 802 SEC	13-NOV-97
Strawman 0.5 (100BaseTX) circulated for comments	21-NOV-97
Comment period on this Strawman (100BaseTX) closed	31-DEC-97
Earliest approval of PAR (NESCOM Meeting)	DEC-97
Interim meeting to resolve issues with Strawman (100BaseTX)	week of 12-JAN-98
Draft 1 Ballot (100BaseTX) (ends 8-MAR-98)	28-JAN-98
Plenary meeting, Irvine CA	09-MAR-98
Draft 2 (100BaseTX) out for ballot and to SC6 for information/action as required	27-MAR-98
Formation of ballot pool for LMSC ballot of HSTR (100BaseTX)	01-APR-98
Possible Interim meeting	MAY-98
Confirmation ballot following ballot resolution (100BaseTX)	JUN-98
Forward to LMSC and ISO for balloting	09-JUL-98

The following Interim meeting locations have been offered. Vote on Thursday.
Miami, UNH, Slough, Israel

John Messenger: Liaison report on 802.3ac

Draft 1.0a of 802.3ac was discussed at the 802.3ac interim meeting help Sunday Nov 9th in Montreal. Much discussion centered on the specification of 802.1q frame format fields in 802.3ac. Having narrowly avoided descending into a religious war, it was agreed to mark the specification of these fields as optional, and include a normative specification that when type = TPID, the MAC client type/length field is to be found 4 octets further on. This document will continue to require careful review by 802.5 members to ensure compatibility between 802.5, 802.3 and 802.1Q.

Meeting adjourned.

DAY 2, Tuesday

802.5 HSTR PARs.

Word-smithed HSTR over copper PAR and criteria.

SC25/WG3 High Performance Cabling update, (Alan Flatman).

Report on the SC25/WG3 Munich meeting.
- channel and link aligned with TIA
- Return Loss values firmed up
- 11801 2nd edition in development (published in 2000, 10 year lifetime)
- Cat X next generation cabling
    - Cat 6 and 7. Speeds up to 600Mbit/s
- classification of fiber cabling

Copper style 2 connectors, (Ed Cody).

Presentation on the look and characteristics of the new copper style 2 connectors.

802.5 HSTR PARs (cont.)

More word-smithed HSTR over copper PAR and criteria.

Meeting adjourned.

HSTR Tutorial, Scott Valcourt. (6:30pm)

Lively discussion of the HSTR PARs. Many concerns raised by attendees, and answered by 802.5 committee members. A full list of concerns, and more detailed answers are recorded later in these minutes.

DAY 3, Wednesday

Responses to formally submitted PAR comments from 802.3 committee.

100Mbit/s HSTR

Distinct identity:
- Existing technologies can be combined (for example 802.3 with 802.1p) to provide Token Ring-like functionality. Token Ring is the only protocol that can provide true native support. Customers today have Token Ring networks employing these facilities. HSTR is the clearest migration path to preserving these facilities.
- Eight user priority levels
- Source routing
- Frame length: 22 to 18200 octet.
- Compatible management. Existing management tools will support HSTR.
- HSTR will retain pinouts with classic token ring.
- Customers have indicated that they are not prepared to migrate to 802.12 or FDDI.

Compatibility:
- The auto negotiation standard has allowed vendors to produce devices that can only support 802.3. These devices cannot be configured to auto negotiate 802.5 (or any other protocol).
- Auto negotiation has yet to prove itself in the market place.
- The proposal by 802.5 to not support auto negotiation, was the result of investigations into the available 100BASE-TX devices, and how these could be configured to allow HSTR operation.
- By retaining the 802.5 pinouts (on UTP), HSTR devices would not be able to auto negotiate with Fast Ethernet devices. It is also the intention that HSTR devices will not interoperate with Fast Ethernet devices.
- Compatibility with existing 4/16 Mbit/s devices is beyond the scope of the proposed standard.

Broad Market Potential:
- Participant and vendor numbers will be added to the PAR.

Purpose and Scope:
- The PARs will reflect the intention to use 100BASE-TX and 100BASE-FX devices.
- After considering both the FDDI and 100BASE-FX PHYs, the standard will reference 100BASE-FX rather than FDDI, as we are intending to use the modifications made by 802.3 in their use of the FDDI PHY.
- 100BASE-X is sufficient to support 802.5 frames.
- We do not intend to use the 100BASE-T MII.
- The management defined by MII will be mapped to the Token Ring management interface, in such a way that the user will be unaware of the underlying changes to the PHY.
- The PAR will state that only minimal changes will be made to the MAC to support the HSTR
- The PAR title and scope text will say that 100Mbit/s HSTR will only support Dedicated Token Ring using the TXI Access Protocol.
- The 802.5 committee has experience in the past of running two PARs in parallel to develop Token Ring over copper and fibre. There was no divergence between the two standards. It is the intention to continue this method of development for the HSTR standards.

1000Mbit/s HSTR

Distinct identity:

- 802.1p/Q does not currently support forwarding based on source route information.
- Token Ring frames have native support for priorities and source routing. It is not currently standardised how ethernet frame could support source routing.
- While it may be true that the driver interface is unaware of the underlying frame format, within the network itself native transport of token ring frames across the backbone benefits from not having to translate/fragment/reassemble the traffic.
- In the real world, the driver interface is (unfortunately) aware of the frame format.
- Token Ring is not just a frame format. It brings with it a set of management interfaces not present in other protocols. These are visible at the driver interface.
- The reference to cable and pin usage will be removed from the PAR.

Broad Market Potential:

- Participant and vendor numbers will be added to the PAR.

HSTR Tutorial Questions and Answers.

1. ***RMII does not exist as a standard?***
   RMII will not be referenced in the PARs.
2. ***What does "Extend the 802.5 MAC protocol for gigabit" mean?***
   We are extending the data rate of the 802.5 MAC to support gigabit.
3. ***Are you doing dedicated only at 100Mbit/s, or shared as well?***
   The PAR will indicate that HSTR will be dedicated, using the TXI (full duplex) protocol.
4. ***a) Why do you have different PARs for copper and fibre?***
   b) Why will fibre take 6 months longer?
   The 802.5 committee has experience in the past of running two PARs in parallel to develop Token Ring over copper and fibre. There was no divergence between the two standards. It is the intention to continue this method of development for the HSTR standards.
5. ***Why reference 100BASE-FX, rather than FDDI directly?***
   After considering both the FDDI and 100BASE-FX PHYs, the standard will reference 100BASE-FX rather than FDDI, as we are intending to use the modifications made by 802.3 in their use of the FDDI PHY.
6. ***How are you going to do phantom?***
   We are not mandating the use of phantom. The 802.5 MAC has been modified to work without the use of the phantom signal. It is not the intention to inter-operate with Ethernet 100BASE-X.
7. ***HSTR is not differentiated from FDDI, 802.12 and 802.1p.***
   Existing technologies can be combined (for example 802.3 with 802.1p) to provide Token Ring-like functionality. Token Ring is the only protocol that can provide true native support. Customers today have Token Ring networks employing these facilities. HSTR is the clearest migration path to preserving these facilities.
   Eight user priority levels
   Source routing
   Frame length: 22 to 18200 octet.
   Compatible management. Existing management tools will support HSTR.
   HSTR will retain pinouts with classic token ring.
   Customers have indicated that they are not prepared to migrate to 802.12 or FDDI.
8. ***Long frame formats may not work over 100BASE-TX?***
   Analysis has indicated that devices can support long frame formats. The standard does not mandate that devices support 18200 octet frames.
9. ***a) Have you done cross talk analysis?***
   b) 4/5 and 3/6 are the worse pairs to choose for 100BASE-TX.

c) Baseline wander?

100BASE-TX requires that it operates on a class D link, irrespective of the pairs chosen. HSTR will operate on these class D links.

The use of the token ring pairs will increase the chance of a link failing. However, the continued use of lobe test by the 802.5 MAC will prevent stations from joining these links. We acknowledge that there may be problems, and will continue to investigate these issues during the development of the standard.

Baseline wander has been investigated, and has not shown itself to be a problem.

10. **Keeping the same cost for increased performance is not what other technologies are doing. They reduce the cost as well.**
    We are also looking to reduce costs. However, we show that we can meet the cost/performance criteria.

11. **PARs submitted to committee are different from what was presented. Why?**
    We continued to address issues arising from the review of the PARs. The only changes made in the Final PAR are responses to these issues.

12. **Bit ordering should never be a customer concern.**
    True, but life sucks.

13. **"Support emerging bandwidth-intensive applications" is counter-intuitive to supporting an existing customer base. Discuss.**
    Existing customer bases will migrate towards emerging bandwidth-intensive applications. HSTR will be there to support them.

14. **Will you share HSTR survey with 802?**
    A number of companies conducted their own internal surveys. An attempt will be made to summarise these summaries.

15. **You are building a new MAC. Say so.**
    We are not building a new MAC. We are making minimal changes to the existing MAC to support dedicated HSTR, while retaining support for 4/16, shared and dedicated entities.

16. **What do the customers like about HSTR?**
    High speed, native, easy standards based migration, preservation of key Token Ring attributes (frame size, source routing, priority, robustness, management)

17. **What percentage of those surveyed used frames greater than 4.5k?**
    Not asked.

18. **What percentage of those surveyed used priority at more than 2 levels?**
    Not asked.

19. **Have the Ethernet PCS management objects been mapped onto Token Ring management objects?**
    The current Token Ring management objects are retained in HSTR. Where this requires Ethernet PCS management objects to be mapped, they will be. Technical investigation has indicated that no new Ethernet management objects need to be defined to support this mapping.

20. **Is HSTR aimed at backbone only? Will there be no HSTR NICs?**
    HSTR is a complete solution; addressing everything from backbones to NICs.
    Initially application of HSTR is expected to be for backbones, switch to switch links, servers and workstations that require higher bandwidths.

21. **Will HSTR NICs be cost effective when compared with Fast Ethernet?**
    We satisfy the cost/performance criteria, where we will provide significantly better performance for a cost that is comparable to today's 4/16 Mbit/s Token Ring solutions.

22. **Why not use proprietary HSTR implementations?**
    Our customers require inter-operable standards based solutions.

23. **Auto-negotiation…**
    The auto negotiation standard has allowed vendors to produce devices that can only support 802.3. These devices cannot be configured to auto negotiate 802.5 (or any other protocol).
    Auto negotiation has yet to prove itself in the market place.
    The proposal by 802.5 to not support auto negotiation, was the result of investigations into the available 100BASE-TX devices, and how these could be configured to allow HSTR operation.

By retaining the 802.5 pin outs (on UTP), HSTR devices would not be able to auto negotiate with Fast Ethernet devices. It is also the intention that HSTR devices will not inter-operate with Fast Ethernet devices.

24. *State that HSTR uses a common station and port specification.*
    The PAR will be updated.
25. *Why does it say "Gigabit or greater"?*
    The PAR will be updated.
26. *How many vendors are committed to producing HSTR devices?*
    The numbers will be added to the PAR.
27. *a) 4/5 and 3/6 may have a problem being plugged into 100BASE-TX. Auto-negotiation could have helped.*
    b) What happens when you misconnect copper and fibre HSTR and fast Ethernet?
    Copper has no issues for the ethernet network.
    Fibre is potentially a problem, with a HSTR station transmitting small Token Ring frames for a maximum of 780ms during an attach attempt.
    How did 802.3 solve this problem, when connecting 100BASE-FX into an FDDI network?

HSTR PAR development.

The committee finished developing the three PARs and 5 Criteria documents for High Speed Token Ring. Straw poll votes were taken on each criterion individually (15 votes), and all were approved with no *against* votes. The PARs were passed with three plenary votes, and they will now be forwarded to the SEC for approval and processing.

FR definition Presentation, Neil Jarvis.

Neil was not allowed to finish his presentation, as it got bogged down with other committee members attempting to provide alternative technical solutions with only half the information. Time constraints meant that this session was brought to a premature halt, and the issue will need to be revisited in the future. **[Unresolved]**

RMII Consortium Presentation, Bill Bunch.

RMII consortium is a group of companies which support the RMII 1.0 Specification

Maintains MII functionality while using 6 pins instead of 16.

Specification available from:
- www.amd.com/products/npd/npd.html
- www.broadcom.com
- www.national.com/appinfo/lan/rmii.pdf
- www.ti.com/sc/docs/network/nbuhomex.htm

E-Mail reflector available at:
- listserv@jupiter.national.com
    With "subscribe rmii_consort" in the body.

Merging j, r and s.

This document merge and associated maintenance, should include HSTR as it is currently updating clause 9. It makes no sense to start the work now. Getting the PAR in March is probably too quick. A straw poll to propose merging the documents will be voted on tomorrow.

100Mbit/s only implementations?

This is mainly a marketing concern, and will be addressed at the next HSTR alliance meeting. This issue will be added to the agenda of the next 802.5 interim meeting, where the results of the HSTRA meeting will be discussed.

Concern was raised that we keep postponing the resolution of this issue. It was made clear that the issue would be properly addressed at the next 802.5 interim meeting.

Meeting adjourned.

DAY 4, Thursday

IPv4 Multicast over Token Ring (Bob Hubbard)

New devices should support multiple group addresses. IP v4 multicasting is being more widely used, and current token ring devices cannot support it. Anyone interested in pursuing these issues should get together with Bob via e-mail. It is expected that presentations on this issue may be made on the reflector and at upcoming meetings.

HSTR Straw Man review - PHY Issues (cont.)

We will use the 100BASE-FX PHY. **[Resolved]**

Termination of the un-powered receiver. What number do we need for clause 9.8? (Suggestion of 10dB @ 80Mhz). To be discussed on the reflector. **[Unresolved]**

Phantom will violate the 802.3 voltage isolation requirements. An exception to allow phantom will be added, and a reference to informative annex E added. **[Resolved]**

Crosstalk cannot be discussed in the HSTR standard. Connectors on new adapters should be carefully designed. HSTR is intended to run on class D cabling. **[Resolved]**

FDDI 7.2.3.3 states that if no idles are received within 700us (4.5k frame) then the PHY may optionally indicate that the de-scrambler is out of synch. This is on copper only. This should have words in 9.8. **[Resolved]**

Yet Another Proposal for HSTR-F, Karl Reinke.

Wavelength:

850nm
+: compatibility with existing 4/16
-: reduces maximum run length

1300nm:
+: allows 2Km cable. 100BASE-FX
-: not inter-operable with 4/16

Use 850nm for 4/16/100, use 1300nm for 100 only.

Connector:

Use '802.5j' connector for 4/16, use 'ST' for 100. This will also help the cross-connect problem.

Multimode/singlemode:

No numbers for singlemode. These could be written, but we could stay with multimode.

Keying:

No need to do 802.5j keying if HSTR-F uses TXI only and no phantom.

HSTR PARs.

Updated with response from 802 execs. Re-approved by committee and forwarded to SEC.

802.5 Closing Plenary.

Set schedule for circulation of 100c Straw Man for comments

Strawman 0.5 (100BaseTX) circulated for comments	21-NOV-97
Comment period on this Strawman (100BaseTX) closed	31-DEC-97
Earliest approval of PAR (NESCOM Meeting)	DEC-97
Interim meeting to resolve issues with Strawman (100BaseTX)	14 to 16-JAN-98
Draft 1 Ballot (100BaseTX) (ends 8-MAR-98)	28-JAN-98
Plenary meeting, Irvine CA	09-MAR-98

Voting rights, Mick Hanrahan

Adopted.

Choice of Interim meeting location and dates

York, UK.

Decision how to proceed with merger of r, j, and REV

Straw Poll 2.

Review and Approval of Minutes for Meetings dd and DD

Approved with votes 9 and 10.

E-Mail lists

Bob will be removing any inappropriate members from the 802.5 e-mail reflector list. The X-HSTR reflector list will be taken off-line once this work is completed.

Liaison Reports and assignments

New liaisons assignments:

802.1:
> John Messenger, SilCom
> Ivan Oakley, Cisco

802.3z:
> Richard Knight is a potential assignee.

802.1 Liaison Report, John Messenger

- Trevor Warwick has left behind a large number of unresolved comments on 802.1.
- 802.1Q defines source route information field, but no source route forwarding rules. 802.5 may need to form a working group to write the source route forwarding rules for 802.1Q. E.g. we need to define what a VLAN aware source route bridge does. The expertise for this work may not be currently present in our committee. They need to be encouraged to attend. 802.1Q will not be delayed waiting for this information.

New Business and Wrap up

Dave Wilson is changing jobs, and does not currently know if his new company will continue to send him to 802.5 meetings. The committee will miss his technical knowledge of Token Ring, and takes this opportunity to thank him for all the hard work he has put into the DTR and 802.5 REV standards.

Meeting adjourned.

DAY 5, Friday

HSTR Strawman review.

Clause 12.

All comments on clause 12 were reviewed and mostly approved.

Clause 9.

On Monday we removed PS_CONTROL(Hard_reset). Neil suggested that we could fudge the MAC transitions, and say that the PHY is up before the MAC starts, just like 4/16 Mbit/s. This removed the *positive* indication that the PHY was up. Simon suggested that we add this indication back in. So the Connect.xMAC is conditional on the PHY being up, and all the transitions to deal with checking for link_status are removed.

Meeting adjourned.

PLENARY VOTES

No	Date	Author	Seconded	Text	Y	N	A
1	12Nov97	Messenger	K Wilson	Move that: The PAR for 100Mbit/s Token Ring over 2 pair cabling (document 802.5/97/11-02r3) be forwarded to the SEC for approval and processing. Responses to the five criteria are documented with study group vote results in document 802.5/97/11-06r2.	8	0	0
2	12Nov97	Jarvis	A Noam	Move that: The PAR for Optical Fibre Physical Layer for 100Mbit/s Token Ring (document 802.5/97/11-03r3) be forwarded to the SEC for approval and processing. Responses to the five criteria are documented with study group vote results in document 802.5/97/11-07r2.	6	0	2
3	12Nov97	K Wilson	D Wilson	Move that: The PAR for Gigabit Token Ring (document 802.5/97/11-04r3) be forwarded to the SEC for approval and processing. Responses to the five criteria are documented with study group vote results in document 802.5/97/11-08r2.	7	0	2
4	13Nov97	Messenger	K Wilson	Move that: The PAR for 100Mbit/s Token Ring over 2 pair cabling (document 802.5/97/11-02r4) which incorporates changes to PAR made since Wednesday be forwarded to the SEC for approval and processing. Responses (as modified) to the five criteria are documented with study group vote results in document 802.5/97/11-06r3. Note: original vote to forward passed 8/0/0	~~6~~ 7	~~0~~ 0	~~2~~ 1
5	13Nov97	Jarvis	K Wilson	Move that: The PAR for Optical Fibre Physical Layer for 100Mbit/s Token Ring (document 802.5/97/11-03r4) which incorporates changes to PAR made since Wednesday be forwarded to the SEC for approval and processing. Responses (as modified) to the five criteria are documented with study group vote results in document 802.5/97/11-07r3. Note: original vote to forward passed 6/0/2	6	0	2
6	13Nov97	D Wilson	K Wilson	Move that: The PAR for Gigabit Token Ring (document 802.5/97/11-04r4) which incorporates changes to PAR made since Wednesday be forwarded to the SEC for approval and processing. Responses (as modified) to the five criteria are documented with study group vote results in document 802.5/97/11-08r3.	6	0	2

				Note: original vote to forward passed 7/0/2			
7	13Nov97	Jarvis	D Wilson	Move that: Conditional on approval of the HSTR over 2 pair cable PAR by NESCOM, version 0.5 of the Strawman published during November, updated with comments reviewed at the January interim meeting be published as Draft 1.0 of 802.5t during January 1998 for letter ballot review.	8	0	0
8	13Nov97	Hanrahan	Messenger	Move that: We adopt the operating rules for the 802.5 committee as defined in document 802.5/97/11-22.	6	0	2
9	13Nov97	Hanrahan	G Lin	Move that: Minutes for meeting 'DD' be approved.	6	0	3
10	13Nov97	Messenger	Hanrahan	Move that: Minutes for meeting 'dd' be approved. Revisions: Spelling mistakes and duplicate in attendees' names. Kevin Tolly was a part-time attender.	5	1	3

2	13Nov97	Jarvis	D Wilson	Move that 802.5 hold an interim meeting in York, UK on January 14th-16th 1998. This will be confirmed by mid-December.
				
				Straw polls for and against the following locations:
				• Key Largo, FL ($150)
				  +: 11 -:1
				• UNH ($100)
				  +: 6 -: 6
				• Windsor/Slough/Oxford ($130)
				   +: 11 -: 3
				• York ($120)
				  +: 12 -: 2
				• Santa Clara ($130)
				  +: 7 -: 3
				
				Who would come to
				• York 16.5
				• Key Largo, FL 16
					7	0	1

.STRAW POLLS

No	Author	Seconded	Text	Y	N	A
1	K Reinke	Messenger	Accept changes to 5 Criteria and responses to questions per advice received from 802 execs since distribution of material on Tuesday. (Reference to documents 11-06r3, 11-07r3, 11-08r3 and 11-24r2).	16	0	1
2	Jarvis	K Reinke	Move that: The 802.5 committee has a desire to merge r, j, REV and HSTR as a work item to follow the bulk of the HSTR 100 Mbit/s work.	11	1	7