
Minutes of the IEEE P802.4L Working Group

Denver, Colorado

July 8-12, 1990

Intermediate part on July 8 and 9, 1990.

Chairman: Don Johnson (Sunday), Vic Hayes (Monday)

Secretary & Editor: Michael Masleid, Chuck Thurwachter, Tom Phinney.

Attendance :

Mr. CHANDOS RYPINSKI	LACE Inc.	415 435 0642
Mr. THOMAS L. PHINNEY	Honeywell	602 863 5989
Mr. DONALD C. JOHNSON	NCR Corporation WHQ 5E	513 445 1452
Mr. KIWI SMIT	NCR Systems Engineering B.V.	+31 3402 76479
Mr. ROBERT S. CROWDER	Ship Star Associates Inc	302 738 7782
Dr. LOUIS P. SHU	The Centennial Funds	303 298 9066
Mr. VIC HAYES	NCR Systems Engineering B.V	+31 3402 76528
Mr. BRUCE TUCH	NCR Systems Engineering B.V.	+31 3402 76527

Sunday, 8 July, 1990, PM

Don Johnson called the meeting to order at 13:45. Five people were in attendance.

Don Johnson announced that NCR was making a presentation to 802.3 on Monday afternoon during the 802.3 plenary to ask for establishment of a radio LAN task force under 802.3. There will also be a tutorial on 802.3 radio LAN technology on Monday evening.

Approval of the Minutes of the Norcross meeting was deferred until Monday.

Don Johnson introduced D.4L/4, an FCC amendment clarifying spread spectrum rules.

The first line of page 2 of the Norcross minutes, 4L/90-21, and the fifth line of page 8 of the Running Objectives and Directions Document, 4L/90-22, should be changed as follows:

$d\tau$ in the exponent should be removed,

dt should be changed to $d\tau$.

Also following sentence "If you hold df to 0 you have" should be changed into "holding df to 0 gives".

Also in the Running Objectives and Directions document, 4L/90-22, delete the first line (6-point text) under heading 3.14.

The Positions and Arguments Document, 4L/90-17, was reviewed: page 3, Position 3 should be clarified by adding "at 1 Mbit/s or greater".

Page 3 Position 8 should be deleted and the following items promoted one level.

Page 3, Position 9 - 2 sub-positions were added

?P: 5-6 km/h (walking speed)

A+: Automated vehicles move slower than a walking person.

?P: desirable 10 x faster

A+: Some equipment used in warehouses and factories (e.g. forklifts and cranes) move at this rate.

Page 4, Position 4 ($\pi/4$ QPSK) - It was unclear whether Jonathan Cheah was withdrawing this proposal.

Page 5&6 - Corrections were made to the Frequency hopping alternative to reflect the recent FCC decision (D.4L/4). Lengthy discussion indicates that frequency hopping should be reexamined as an alternative, since it would permit:

- 1) avoidance of line interferers,
- 2) continuous (non ping-pong) operation of a distribution system and
- 3) some design and operation for head-end and non-head-ended subscriber modems.

(These charts should be corrected as on the Transparencies) NOTE: See also below for better improvement.

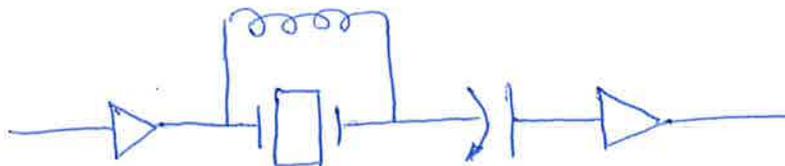
The meeting adjourned for the day at 16:53, and will reconvene at 9:00.

Monday, 9 July, 1990, AM

Vic Hayes opened the meeting at 09:18, seven people were in attendance. Vic reviewed the activities from the prior day.

The minutes from the Norcross meeting, 4L/90-21, were reviewed and the following corrections made:

- page 2, top paragraphs: refer to Sunday discussions,
- page 4, penultimate paragraph: change "respectively" into "and",
- page 6: remove last paragraph,
- page 6: remove last paragraph,
- page 7: remove Figure 3,
- page 8 the answer to "NOTE: What should be captured" is to adopt the first one,
- page 9, last paragraph, replace 25 millisecond" by 125 "usecond"
- page 10, fourth paragraph, change "5 layers" into "4 layers",
- page 10, replace the paragraph that reads "WIN is wired in-building network, implied radio though." into " WIN is Wireless in-building network, a term used by Motorola.",
- add the following figure on page 24:



they were approved subject to correction of the word "Rnjh" at page 3 line 7 word 5, Moved: Tom Phinney, seconded Bruce Tuch, carried: Unanimous 6-0-0

July 1990

Doc: IEEE P802.4L/90-24

Doc: IEEE P802.11/90-2

Bob Crowder moved to capture task group results and agreements in three documents:

- 1) Questions
- 2) Archive of tables, facts and definitions, and
- 3) Positions and arguments in IBIS format, augmented with item numbers for positions.

Tom Phinney seconded, unanimous 6-0-0.

The group questioned the effectiveness of IBIS for correct capture of the old frequency hopping decision with arguments based on the old rules. Should the arguments be changed and the position re-activated? But in that case the old decision would be lost. Vic Hayes indicated the strong point of IBIS is the fact that old decisions remain documentd. Consequently he demonstrated how in this particular case the mechanism would be; he modified 2.3 of 4L/9-17 to keep the old decision on frequency hopping as was with the qualification "prior to the rules of 1990-06-14" and adding a new position for frequency hopping with qualifacation "with the rules of 1990-06-14" with its own set of arguments.

Tom Phinney moved to adjourn. Bruce Tuch seconded- unanimous. Adjourned at 11:49.

Minutes of the IEEE 802.4L Working Group**Denver, Colorado
November 10-12, 1990****Regular part on November 10 to 12 July, 1990.****Chairman:** Vic Hayes**Secretary & Editor:** Michael Masleid, Chuck Thurwachter, Tom Phinney.**Attendance:**

Mr. VICTOR HAYES	NCR Systems Engineering B.V	+31 3402 76528
Mr. CHARLES THURWACHTER	Industrial Technology Institute	313 769 4292
Mr. THOMAS L. PHINNEY	Honeywell	602 863 5989
Mr. BRUCE TUCH	NCR Systems Engineering B.V.	+31 3402 76527
Mr. CHANDOS RYPINSKI	LACE Inc.	415 435 0642
Dr. PAUL EASTMAN	Fairchild Data Corporation	602 949 1155
Mr. DONALD C. JOHNSON	NCR Corporation WHQ 5E	513 445 1452
Mr. MARIS GRAUBE	Relcom inc	503 357 5607
Mr. ROBERT S. CROWDER	Ship Star Associates Inc	302 738 7782
Mr. JONATHAN CHEAH	HUGHES Network Systems	619 453 7007
Mr. KIWI SMIT	NCR Systems Engineering B.V.	+31 3402 76479
Mr NATHAN SILBERMAN	Symbol Technologies Inc	408 446 2210
Mr HAMID R. HEIDARY	C-COR ELECTRONICS INC	814 238 2133

Tuesday, July 10, 1990

Vic Hayes called the meeting to order at 09:00. Seven people were in attendance.

FCC GEN Docket 90-314, released 28 June 1990, and a related news item were circulated. (temporary documents D.4L/5 and 6) It was noted with concern that the FCC proposed to allocate spectrum to local area communication (the Personal Communications System) with the implied assumption that narrow-band transfer would be sufficient for both voice and data. The group agreed to draw the attention of the FCC to the needs of the data-processing community.

A long discussion of the merits of moving the Radio LAN effort to a separate MAC occurred. The general agreement was that the existing MACs (CSMA/CD and Token-Bus), because they were designed to the properties of wires and cables, imposed inhibitive inefficiencies for a radio medium. It was decided to prepare a rationale for starting a new Working Group so that both a MAC and PHY could be designed for radio.

The group split into two editing groups:

- 1) to draft a position for IEEE 802 Executive Committee endorsement of the need for RF Spectrum allocated for data-LAN use, and
- 2) to draft the rationale for a new Working Group to develop both wireless MAC and modems.

These groups worked till about 23:00 h, only interrupted for lunch, dinner and a presentation given to the IEEE p802.3 plenary to propose the set-up of a Radio Task-Force in their domain.

July 1990

Doc: IEEE P802.4L/90-24

Doc: IEEE P802.11/90-2

Vic Hayes undertook to request an NCR attorney to review the draft comment to Docket 90-314.

Wednesday, 11 July, 1990, PM

Some of the membership of 802.4L attended an ad-hoc meeting of 802.3 from 13:14 to 15:25.

Vic called the meeting to order at 16:00 h. Eight people were in attendance.

The rationale for moving Radio LAN to a separate Working Group was discussed, and the presentation materials for the Executive Committee modified.

The meeting adjourned at 17:37 h. Moved Don Johnson, Seconded: Tom Phinney. Carried unanimously.

Thursday, 12 July, 1990

Vic Hayes called the meeting to order at 09:23. Six people were in attendance.

The document list was reviewed.

The next interim meeting will be at GM in Oshawa, ON, Canada, from 13:00 h on Monday, 1990-09-10 to 12:00 h on Friday, 1990-09-14.

The interim meeting purpose will be to review architecture, protocol and modem considerations for a Radio LAN, in anticipation of the first meeting of the 802.11 Wireless LAN Working Group.

There will not be a second interim meeting immediately preceding the next plenary. That next plenary meeting will be held in La Jolla (San Diego) 1990-11-12 through 16.

The comment to the FCC was discussed. Don Johnson introduced some proposals for improvement and undertook to edit the draft further. He was also empowered to include proposals from an NCR attorney expected to arrive around noon today. The task-group mandated further editing and processing of the paper to 802.4. See Doc: IEEE p802.4L/90-28, Doc: IEEE p802.11/90-6.

Vic presented Don Loughry's (802 chairman) request for additional materials in support of a new Working Group and a new MAC.

- Reasons for a new MAC
- Scope and objectives
- Interoperability with other MACs
- Make it close to an existing MAC
- Does it obsolete chips
- News release.

It was decided that an editing group would get the mandate to draft the necessary documentation so that further processing could be done by 802.4. See Doc: IEEE p802.4L/90-29, Doc: IEEE p802.11/90-7 for the version presented to the Executive Committee.

Tom Phinney moved adjournment of 802.4L at 10:53, Bruce Tuch seconded. Carried unanimously, 9-0-0.

List of temporary documents

Temp.	Source	Title	Document number
D.4L/1	Hayes	Document list	
D.4L/2	Hayes	Agenda	
D.4L/3	Hayes	Attendance list	
D.4L/4	Johnson	FCC News release on Spread Spectrum rules	4L/90-25 11/90-3
D.4L/5	Rypinski	FCC Notice of Inquiry, GEN Docket 90-314	4L/90-26 11/90-4
D.4L/6	Rypinski	FCC News release on GEN Docket 90-314	4L/90-27 11/90-5
D.4L/7		Comment from IEEE P802 to FCC as submitted to the Executive Committee	4L/90-28 11/90-6
D.4L/8		Motion, Qualification criteria , Objectives, Reasons and Arguments and proposed PAR for starting a new Working Group as submitted to the Executive Committee	4L/90-29 11/90-7
D.4L/9		News Release as sent by the Executive Committee	4L/90-30 11/90-8