

Tentative Minutes of the IEEE P802.11 Working Group

**Interim meeting
Salt Lake City, UT
May 8-11, 1995**

Monday, May 8, 1995, 8:40 AM

The meeting was called to order at 8:40 AM, Vic Hayes, chairman IEEE P802.11¹⁾ in the chair. Lee Goldberg accepting to take notes. Stuart Kerry managing document originals and copying, Jon Rosdahl managing distribution and pigeon hole organization. Leon Scaldefferri handling the attendance list. The agenda document for this meeting is 802.11-95/36.

Objectives for this meeting

To resolve the remaining issues from the letter ballot on D1.

¹⁾The officers of the Working Group are:

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1. Opening

1.1 Roll Call: People in the room were invited to introduce themselves.

1.0 Secretary: Lee Goldberg took meeting notes and Vic Hayes prepared the minutes.

1.2 Voting rights:

Voting at the working group level is by voting members only. Chair may permit observers to participate in debate. To become a voting member:

- participate in at least 2 out of 4 consecutive plenary meetings. Voting rights start at third meeting
- participation in at least 75% in meetings, in the room
- one interim may be exchanged for a plenary
- Voting members will get a token to be used at votes

Voting rights can be maintained:

- by participation in 2 plenary meetings within 4 consecutive plenary meetings
- one interim may be substituted for a plenary

Voting rights may be lost:

- after failing to pay the conference fee
- after missing two out of three consecutive letter ballots

Current status:

97	Voting members
6	Voting membership lost
14	Nearly Voting members
42	Aspirant Voting members

1.3 Attendance list, Registration: The attendance list was distributed - 75% attendance according to the attendance list is required to qualify for attending the meeting as a whole, so make sure to sign the book. Copies of the attendance list are handed out before the end of each meeting.

- important for administration of voting rights that the attendance book is used properly.
- sign per meeting (morning, afternoon, evening)
- place initials. Do not cross or underline.

Check Email addresses: please check your email regularly. Please strike your address if its no longer valid.

Reflector inoperable: the reflector has been out of service for at least two weeks. The chair indicated there is a large queue waiting to be sent to the membership. One of the messages being a straw poll on switching from Word for Windows V 2.0 to 6.0. Some members noted other problems with V 6.xx and issues of compatibility with MAC machines.

1.4 Logistics: Document distribution is done using pigeon holes - you will find your copies and messages in the referenced location in the expanding file folders in the slot in front of your name.

Document distribution:

- sign in for a slot, remember the letter and number
- pigeon holes are file folders with a letter id on each folder and a number on each slot
- in each folder are numbered slots, each of which is 'owned' by a person
- each person owns slot in front of number

Coffee breaks at 10 AM and 3 PM. Lunch noon to 1 PM

1.5 Other announcements

1.5.1 Apology received from Barry Dobyms: He offers regret to Jon Rosdahl, editors team and members with interest in IR group. Subject to finding a sponsor by July he will resign voting membership. There is a need to find another leader for IR group for this meeting at least. As there is only 1 person interested in IR matters and the IR group had already finished their task for resolving negatives, no IR meetings are needed this week.

1.5.2 The chair received a request from the **InterOperability Lab of the University of New-Hampshire** for presentation on their possible assistance in making test specification. See proposed agenda under new business on Tuesday afternoon.

1.5.3 Result of ballot on new chapters and FH motions

Tentative report

To date ballot received from 63 voting members (64 % of voters)

Section/motion	percentage approval	percentage abstaining
1 & 2	75.9 %	7.9
3	96.4 %	12.7
4	94.2 %	17.5
5.1 & 5.2	100 %	14.3
5.4	100 %	17.5
5.5 & 5.6	100 %	15.9
7.1	96.4	11.1
10	100	22.2
11	100	27
12	100	36.5
m1	75	16.1
m2	80	19.4
m3	79	6.21
m4	82	19.4

The low approval rate of sections 1 and 2 were caused by the addition of a paragraph leading to a single PHY support. Dave Bagby apologizes for the editing mistake, the MAC group will correct the error.

With the uncertainty of late incoming ballots that were sent by snail mail 802.11 passed a motion by unanimous consent to operate on the assumption that all items passed. Dave Bagby suggests to declare the closure date as the date of receipt in the chair's office in stead of the date of sending. This would need to be decided by the group each time it would ask for a ballot.

Dave Bagby requests for an updated D1 to D1.1. The editor could not warrant a practical delivery time and it was agreed to work from separate sections D1.1 which will be prepared and distributed by Bob O'Hara as soon as possible.

1.5.4. Workshop WINForum/Federal User Forum: will be held week after this meeting. As the chair is involved in the workshop, the mailing will be prepared immediately after closure of the meeting.

1.5.5 Larry Zuckerman's paper on procedures: Wayne invites discussion on subject paper. The chair indicates that such should be done under new business.

2. Approval of the minutes of the previous meeting

2.1 West Palm Beach meeting, Document IEEE P802.11-95/32: postponed approval due to lack of quorum.

2.2 Matters arising from the minutes: none.

3. Reports

3.1 The Executive Committee, by Vic Hayes. The ExCom passed a motion that all letter ballot would have a minimum time of 30 days. As the rules state that Operating Rule changes needs to be decided over a plenary to plenary time, said motion needs to be re-approved until the official rules change would be adopted.

3.2 The Editors, none

3.4 The Letter Ballot Results of the March meeting results by Vic Hayes

Refer to agenda item 1.5.3.

3.5 San Jose meeting finances, second time approval had to be delayed. Chair did receive the overview, but did not get the exhibits, nor did the present host receive the balance.

3.6 The Letter Ballot Results from San Jose meeting, by Vic Hayes

See section 1.5.2

4. Review of Contributions: document list is document 95/87. Members announced submissions until 95/86.

5. Adoption of Agenda for Monday: The following new business items were added as result of announced contributions:

PHY Conformance	95/05
MAC/PHY interface	95/16
Voting procedures	95/37
Product Labeling	95/41
Parameters IFS	95/81,86
Conformance	95/82 83

The agenda, as modified, was approved by unanimous consent.

6. Unfinished Business: none

7. New Business:

7.1 PHY Conformance: This item is delayed till after the InterOperability Lab presentation.

7.2 MAC/PHY interface This item is delayed due to late arrival of paper.

7.3 Voting procedures This item is delayed due to late arrival of paper.

7.4 Product Labeling John Sonnenberg introduced document 95/41 titled Product Labeling (John Sonnenberg, Pulse Engineering, and Wayne Moyers, Consultant). He showed a possible motion.

A discussion ensued whether so many variables need to be defined. The relation with conformance and the conformance test suite definition designed to provide consistent compliance evaluation which does not permit vendors to take advantage of ambiguities in the specification was raised. The attention was also drawn to the requirement of a good standard to bring the number of options to the minimum. Questions were raised on whether simpler 802.11 devices (such as printers without access to many signals) would be subject to the same compliance test specification.

Questions were raised about the desirability of setting minimum performance standard.

The goals of product labeling were seen as:

1. to match the Physical Layer
2. to allow consumers to select and match power level,
3. reduce interference,
4. notify user about energy levels.

Labeling came mostly favourable out of the discussion. Questions were raised about whether product or package should be marked. The power classes proposed were:

1. <200 mW
2. < 400 mW
3. > 400 mW

It was argued that this was a marketing function, not appropriate for specification.

The chair proposed to defer labeling to give John a chance to resubmit his paper taking the comments into consideration. To help John, straw polls were taken for each of the sections of the proposed motion. The following is the result in the format **support, oppose, abstain** all present permitted to participate.

section 1, type designation as stated: 11, 14 ,13

section 2, power level as stated: 3, 25, 7

section 3, safety notices, 7, 26, 6

section 4, FCC identifier, 6, 30, 9

section 5, compatibility with other products, 5, 18, 8

section 6, power class recommendation, 3, 27, 5

The overall support of labeling, 30, 3, 7.

Some dissension about labeling on the product itself was voiced. For labeling on enclosure 9, for labeling on selling box: 6. These counts includes counts on both.

7.5 Parameters IFS This item is delayed due to late arrival of paper.

7.6 Conformance This item is delayed due to late arrival of paper.

8. Adjourn for subgroups - 6:50 PM

**Tuesday, 9 May, 1995, AM
MAC subgroup & PHY-FH, PHY-DS ad-hoc groups**

**Tuesday PM, 9 May, 1995
Full Working Group**

The meeting was reconvened at 1:05 PM, by chairman Vic Hayes, with Lee Goldberg note-taker.

9. Opening 1:00 PM

9.1 Roll Call People in the room were invited to introduce themselves.

9.2 Document list update Stuart Kerry gave an update on the availability of documentation.

9.3 Agenda adjustments under old business the Voting procedures (doc 37), Parameters such as IFS, docs. 81 and 86, and Conformance (docs. 82 and 83).and under new business: InterOperability Lab, PHY Conformance (doc 5). The agenda was approved as modified by unanimous consent.

9.4 Announcements

9.4.1 How many documents expected for mailing: the chair asked an estimate of the amount of documents available at the end of this week to plan the work to get the mailing out from this hotel, due to other commitments the week after the meeting. He also asked for assistance Thursday evening and night.

9.4.2 Logistics: none

9.4.3 Chairless PHY group: the PHY group lost its chair, Larry van der Jagt, due to loss of membership for not returning ballots. Vice-chair of the PHY-group, Jim McDonald, has already replaced Larry van der Jagt for quite some time and had agreed to consider the acceptance of the full chairmanship. In the meantime, Jim will be added to the list of officers of 802.11 on the front-page of the minutes of the full Working group as vice-chair, PHY subgroup.

9.4.4 Power Supply: Jim McDonald indicated that he still had a power supply, found in one of the meeting rooms in West Palm Beach.

10. Old Business

10.1 Void

10.2 VOTING PROCEDURES - Document 37 with Larry Zuckerman This presentation proposed a novel weighted voting system intended to eliminate the sudden death of potentially good compromise choices which occurs in situations where more than two choices are presented. One part of the weighting system would be factored on seniority, i.e. the length of time a member has actively been involved. It was acknowledged that this might be impractical to implement at this late date. Another key concept is allowing members to vote for vote for more than one candidate.

10.3 PARAMETERS FOR PIFS, IFS, DIFS - Document 81 with Chris Zegelin. This proposal unifies the timing parameters between all 3 MACs, no intent to modify the specs. Corrections and updates only - no changes, except for clarity and consistency.

Motion #1: To unify the timings provided in the PHY sections of the document with those used by the MAC, by adding the new text from 95/81

Moved by: Chris Zegelin
 Seconded by: Sarosh Vesuna

Motion Discussion: much ado about nothing.....

Motion 1.1: to postpone vote until after Wim D's paper

Moved by: Ed Geiger
 Seconded by: Wayne Moyers

Approved: 36 Opposed: 1 Abstain: 0 **Motion #1.1 passes**

IFS TIMING SPECIFICATION - document 86 presented by Wim Diepstraten. It was not appropriate to make a motion to adopt the subject matter because the paper was not yet available.

Motion 2: To refer the subject to ad-hoc to come with text etc. as soon as the paper has been distributed, and come to the plenary with the result; start 8:30, leader Ed

Moved by: Ed Geiger
 Seconded by: Wayne Moyers

Approved: 36 Opposed: 0 Abstain: 1 **Motion #2 passes**

10.4 CONFORMANCE - Document 82 with Chris Zegelin. Proposed that all conformance measurement be done at the air interface. Praise for the concept but reservations about the specific wording.

Motion 3: to define the point for measuring compliance to all characteristics of the 802.11 standard as the 'air' interface for the product, and that no physical attachment be used to measure compliance. This accomplished by adding the new text from document 95/82 into the draft standard.

Moved by: Chris Zegelin
 Seconded by: not registered

Motion 3.1: to call the question

Approved: 36 Opposed: 0 Abstain: 0 **Motion #3.1 passes**

Approved: 10 Opposed: 14 Abstain: 4 **Motion #3 fails**

Chris Zegelin continues with introducing document 83 **PRODUCT CONFORMANCE TO MIB**. Proposal is that MIB is only exposed at the choice of manufacturer who has option of exposing only a subset for conformance verification - depending on application.

Motion 4: *to remove any confusion about requiring an exposed MIB interface for any specific product, the following new text will be included in the draft standard. This accomplished by adding the new text from document 95/83 into the draft standard..*

Moved by: Chris Zegelin
Seconded by: not registered

Motion 4.1: *to call the question*

Moved by: Bob O'Hara
Seconded by: not registered

Approved: by voice vote.

Motion #4.1 passes

Approved: 3

Opposed: 20

Abstain: 7

Motion #4 fails

11. New Business

11.1 INTEROPERABILITY LAB PRESENTATION with Barry Reinhold of the University of New Hampshire. Information can be obtained from WWW.IOL.UNH.EDU. The presentation will be made available in electronic form. Idea is to provide brainpower for conformance testing via consortia for each subject. Members of the consortia would provide funding for whatever they specify the university to do, including looking at the standard, commenting where it would be ambiguous, or to prepare testbeds.

Interest ran high, it was suggested that an exploratory meeting be held at UNH.

Reinhold offered his email address - bbr@unh.edu for any interested party who wishes to pursue the possibility of forming an interoperability consortium.

11.2 PHY CONFORMANCE: document 05. Postponed

Adjourn - 5:05 PM

Wednesday, 10 May, 1995

MAC subgroup & PHY-FH, PHY-DS ad-hoc groups

Thursday AM, 11 May, 1995

MAC subgroup & PHY-FH, PHY-DS, PHY-IR ad-hoc groups

Thursday PM, 11 May, 1995
Full Working Group

The meeting was reconvened at 1:15 PM, by chairman Vic Hayes, with Johnny Zweig note-taker.

14. Opening

14.1 Announcements/Domestic Items:

14.1.1. Software versions and e-mail document distribution - Vic Hayes reported the results of Straw Poll on Electronic Document Distribution Formats:

Microsoft Word files in version 6.0c

Table with 2 columns: Response and Count. Rows include 'I do agree, I work in that version' (25), 'I do agree, I will buy the new version' (0), 'I do agree, I can view that version' (1), 'I do agree, I can convert to/from that version' (0), and 'I do NOT agree' (3).

Reasons given for I do NOT agree:

- but I can view
- Word 6 seems to have a lot of problems
- Word 6.0 for the MAC is
1 unreliable
2 incompatible with most other MAC software
3 slow
4 can clobber hard disk file structure while doing nothing but opening files and printing
- I would like to be able to vote for never sending documents in Word 6 format

Powerpoint files in version 4.0a

Table with 2 columns: Response and Count. Rows include 'I do agree, I work in that version' (24), 'I do agree, I will buy the new version' (0), 'I do agree, I can view that version' (0), 'I do agree, I can convert to/from that version' (1), 'I do agree, provided an alternative is sent in RTF' (0), and 'I do NOT agree for the following reason' (6).

Reasons given for I do NOT agree:

- I cannot print any PPT files
- Powerpoint for the MAC is larger & slower than the 3.0, with few if any discernible advantages. V3.0 cannot open V4.0 files
- I do not have space for 4.0 on my notebook, so I would prefer 3.0 files - but there are less reasons than Word 6.0

by e-mail AND on FTP servers only (do not mail documents)

Table with 2 columns: Response and Count. Rows include 'I do agree' (10) and 'I do NOT agree' (15).

Reasons given for I do NOT agree:

- speed of downloading is low over tel. lines. Diskettes work fine for me
- one diskette per company/ e-mail is not reliable
- e-mail and FTP not reliable
- unreliable
- e-mail is not 100 % reliable. It should be incorporated, but snail-mail should still be an option
- very frequently our internet connection is down, e-mail is vary unreliable

- FTP plus diskettes fine, paper not needed

maintain just a single mailing list (get rid of bulk list)

- I do agree, remove the bulk list 23
- I do NOT agree with receiving files larger than 4 pages 6

Vic will send out a letter ballot proposing that we go to 1 copy mailed per company, Word version 6, PowerPoint version 3.

14.1.2 Financial report SLC

Jon Rosdahl. Thanks to AT&T, Novell, Photonics, Xircom for providing equipment for the temporary network. Thanks to the members for attending. Meeting budget came to \$9800. [95/108] will detail finances. Photocopying was \$480 @\$0.04/page. Apologies for the bills showing \$99/day rather than \$70+\$29 per day. The registration charge was reduced to \$40 (from \$60), and is itemized separately on hotel bills.

The chair thanks Jon for bringing us to the excellent facilities so well organized. Acclamation.

14.2 Document List Update: everybody give electronic copies to Stuart Kerry.

14.3 Agenda Adjustments: added report of the ad-hoc group IFS definition/timing and labeling under old business. Agenda, as modified, adopted by unanimous consent.

15. Reports

15.1 MAC Group, by Dave Bagby

Goals were to incorporate D1 LB comments. Approved March MAC minutes. April LB results incorporated. Most D1 comments were processed. [95/14] will offered as part of a letter ballot so members have time to review. [95/16] withdrawn. [95/80] resulted in a motion that was not passed (3 in favor, 11 opposed, 5 abstain) *so a* straw poll to determine which CW sizes members preferred (5 wanted less than 8 slots; 5 wanted 8 slots; 8 wanted 16 slots, 3 wanted 32 slots, none wanted more than 32 slots). There was also a straw poll on whether CAW should be PHY dependent, with 9 votes in favor, 1 opposed, 11 abstaining. Finally, a straw poll was conducted to consider Tom Tsoulogiannis' proposal that a dynamic approach be used (algorithm TBD) to adjust CW dynamically. This failed, with 0 in favor, 7 opposed, 12 abstaining.

Technical highlights:

Sec 1, 2, 3, (some of) 4, 5.4 considered by a special Security subgroup. MAC recommends adoption of [95/95] and [95/96] to complete all technical D1 LB comments.

Motion #5: *That 802.11 adopt the changes described in these slides by adopting the corresponding detailed text changes from document 95/96. (MAC vote was 13 1 3)*

Moved by: David Bagby for the MAC subgroup

Seconded by: Michael Fischer

Motion Discussion: none

Approved: 22 Opposed: 0 Abstain: 5 **Motion #5 passes as recommendation**

Motion #6: *That 802.11 conditionally adopt RC4 as the WEP PRNG algorithm, provided that the following conditions are satisfied:*

- 1) RSA to send a letter to IEEE satisfying the requirements for "fair and equitable" availability of RC4 before the July 1995 IEEE 802 meeting.*
- 2) RSA to further state in a letter to IEEE that it will make RC4 available under terms that are identical for anyone who wishes to use RC4 for an 802.11 WEP implementation*
- 3) RSA specifies licensing terms for 802.11 WEP implementations which include at least the following scenarios:*

*- little or no fee up-front, with a per-unit royalty
 - a one time, per-company fee, with no per-unit royalty
 (MAC vote was 18 in favor 2 opposed 1 abstain)*

Moved by: The MAC subgroup
 Seconded by: Michael Fischer

Motion Discussion: none

Approved: 22 Opposed: 0 Abstain: 4 **Motion #6 passes as recommendation**

Section 3. All D1 LB comments dealt with except missing 3.2.2 which Tom Siep will write and submit for LB before July in document [95/113]. Proposed D1.2 text in document [102] will be in May LB mailing. 802.10 references were removed, and the section was rearranged/consolidated. Place holders were re-inserted for text that is to be written.

Sec 4. D1 comment tables updated. Most changes drive by other groups. 116 will be in May LB

Sec 5. 5.0-5.2 already incorporated in D1.1 -- some comments not processed yet. All 5.3 comments processed. Superframe was removed. Beacon and CF periods were set to integral multiples and synchronized. CF is not confined to a single medium occupancy. CF period begins with a DTIM. 5.4 covered by security group. 5.6 and 5.6 already covered I D1.1. 5.7 5.8 state machines will be replaced by text to be sent out in May LB.

Sec 7. Power Management updated. Association updated. [106] will be submitted in May LB. [95/117] will submit a new section 7 re-association section to go out in second (June?) mailing.

Goals for July meeting: Send D1.3 MAC chapters for 802.11 LB approval to forward to Sponsor ballot. Operating rule will be "no putting decisions off" to ready the draft for sponsorship.

Open sections from D1 LB:

Section 3.2.2 to be added

Section 4: most D1 comments processed. Mgmt frame format for connection services and connection elements

Section 5: Multi-rate comments and RTS/CTS usage and fragmentation to be addressed. 5.7 not yet addressed but will be

Section 6: Empty now, will be created in [95/118] before July meeting. We need input from each of the PHY groups. Dean Kawaguchi (volunteered by Chris) for FH group; Jim McDonald and Ed Geiger will coordinate obtaining additional bodies (from IR group, for instance); Mike Trompower for DS group.

Section 7: All D1 comments for 7.2 and 7.3 addressed. 7.1 still has some comments unresolved from before D1.1 was prepared. MIB review will happen in July.

Any TBDs left after June LB will be filled in during July meeting.

Discussion: Do security changes to disentangle from 802.10 violate our charter? No. The changes make it unambiguous that WEP operates at the MAC layer and 802.10 operates above it.

Dave and Vic will cooperate to get RSA to send the properly-worded letter to the appropriate IEEE responsible individual. Note that RSA algorithm itself is only available from RSA; for legal reasons, it cannot be published, so 802.11 will indicate how to obtain the algorithm from RSA.

15.2 PHY group

DS group resolved all D1 LB comments -- scrambler, turnaround timing, CCA. MIB refinements were resolved together with FH group. Resolution to be described in [95/119] in May LB mailing; revised text [95/123] in June mailing.

FH group resolved 90% of comments. MIB, 10.4 and 10.5 still need to be addressed. Parts per million drift on data rate is TBD.

MIB made significant progress. Definitions clearer and common amongst all PHYs. Consistent with recommendations of IFS Timing ad-hoc group. Clarified 2.0 Mbit/s option. RSSI format defined but its use is optional. IM and Desensitization specs refined.

Issues: Japanese power and call sign transmission requirements. CCA with random data. Beacons (should their timing be related to dwell time?). MAC support for multiple data rates not yet resolved. FER (frame error rate) used instead of BER for several specifications, and the conversion between FER and BER that is to be resolved.

Documents: [95/77a] will go in May LB. [95/124] to go out in June LB with revised text. Separate motions will be required for FER/BER and aMPDU_Maximum_length_2Mbit/s.

- 15.3 Ad-hoc IFS definition/timing group Wim Diepstraten. Came to conclusion that [95/86a] fairly represents what is need for correct PHY and MAC operation. Text has been generated [95/121] which will go out in May LB mailing.

16. Unfinished Business

16.1 Recap of Output Documents: there are none.

16.2 Recap of Document Distribution: All documents OK for distribution, except attendance list which will only be given to attendees.

16.3 Labeling

John Sonnenberg. Reworked text from the proposal of Monday.

Motion #7: To add the following to a new section in the draft standard.
X.XX.X Media Access Unit (MAU) labeling.
Each product (and supporting documentation) claiming conformance to the P802.11 standard shall include the following information regarding the MAU:
 1. **802.11 Type Designator**
At least one of the following 802.11 LAN type designators. These indicate the technology used within the MAU.

802.11-DS	<i>For DS implementations</i>
802.11-FH	<i>For FH implementations</i>
802.11-IR	<i>For IR implementations</i>

Motion Discussion:

Motion #7.1: *to reword motion so it says "product or supporting documentation"*

Moved by: Chris Zegelin
 Seconded by: Larry Zuckerman

Discussion: Chris Zegelin: to avoid having to label the physical item itself. Jon Rosdahl thinks labels are so useful that they should be required on the unit. Wayne Moyers agrees with Jon. Johnny Zweig disagrees, since buyer can decide whether to buy unlabelled units. Chris Z wants to be able upgrade handheld units without having to put stickers on the boxes. Stuart K agrees with Chris. Jeff Abramowitz agrees with Chris and Johnny that unit labeling is a product marketing, not a standards issue.

Motion #7.1.1: *to omit parenthetical comment and "regarding the MAU"*

Discussion: Dave Bagby: so that the text will not specify how the information is communicated. Jon Rosdahl seconds. Discussion of amended amendment: Greg says that we don't have a MAU defined in our standard. So the title is misleading. Dave corrects his proposed amendment to the amendment accordingly and now reads.

Motion #7: *To add the following to a new section in the draft standard.*
X.XX.X ~~Media Access Unit (MAU) labeling.~~

Each product (~~and OR supporting documentation~~) claiming conformance to the P802.11 standard shall include the following information ~~regarding the MAU~~:

1. 802.11 Type Designator

At least one of the following 802.11 LAN type designators. These indicate the technology used ~~within the MAU~~.

- 802.11-DS* *For DS implementations*
- 802.11-FH* *For FH implementations*
- 802.11-IR* *For IR implementations*

Approved: 23 Opposed: 0 Abstain: 1 **Motion #7.1.1 passes**
 Motion 6.1 (to amend) is still on the floor.

Approved: 22 Opposed: 0 Abstain: 3 **Motion #7.1 passes**
Motion #7.2: *to delete the word "LAN"*

Moved by: Jim McDonald
 Seconded by: not registered
 Motion by carries by unanimous consent.

Motion #7.3: *to further amend by qualifying "DS" and "FH" with "2.4 GHz" and "IR" with "BB"*

Moved by: Jim McDonald
 Seconded by: Jim Renfro
 No discussion

Approved: 11 Opposed: 3 Abstain: 5 **Motion #6.3 passes**

The amended main motion now reads:

Motion #7: *To add the following to a new section in the draft standard.*
X.XX.X labeling.
Each product claiming conformance to the P802.11 standard shall include the following information:
1. 802.11 Type Designator
At least one of the following 802.11 LAN type designators. These indicate the technology used.
802.11-DS 2.4 *For DS implementations*
802.11-FH 2.4 *For FH implementations*
802.11-IR BB *For IR implementations*

Approved: 12 Opposed: 2 Abstain: 7 **Motion #7 passes as recommendation**

16.4 Next Meeting

Motion #8: *to send two letter ballots for 30 days between outgoing postmark and receipt on Chair's desk, to approve the new sections ad TBD text for draft standard D1.2, as well as a ballot on the distribution*

Moved by: Dave Bagby
 Seconded by: Jim McDonald
 No discussion

Approved: 24 Opposed: 0 Abstain: 1 Motion #8 passes as recommendation

16.4.1 Objectives for next meeting

Prepare draft D2.0 for letter ballot among working group for approval for Sponsor letter ballot
 Review InterOperability Lab involvement

16.4.2 Mailing Dates: May 19 12 and June 2 May 25

16.5 Other Intermediate Meetings: none

16.6 Future Meetings: as scheduled

17. New Business: Jon Rosdahl requests that each attendee pick up a Novell t-shirt on their way out. There is no other new business.

18. Closure - Motion to close carries by unanimous departure. Meeting adjourned at 3:05 PM.

Tentative Meeting Schedule

Date	Month	Year	Place	Type	Location	Host
10-14	July	1995	Maui, HI	Plenary	Hyatt Regency	
28-31	Aug	1995	Schaumburg, IL	Inter	Marriott	Motorola
6-10	Nov	1995	Montreal, PQ	Plenary	Queen Elizabeth	
	Jan	1996	TBD	Inter	TBD	TBD
11-15	March	1996	La Jolla, CA	Plenary	Hyatt Regency	
TBD	May	1996	TBD	Inter	TBD	TBD
8-12	July	1996	Netherlands?	Plenary	Twente?	
TBD	Sep	1996	TBD	Interim	TBD	TBD
11-15	Nov	1996	Vancouver, BC	Plenary	Hotel Vancouver	

Appendix 1

Attendance list

<u>First name</u>	<u>Last name</u>	<u>status</u>	<u>company</u>	<u>communications</u>
Mr. JEFF	ABRAMOWITZ		3Com Corporation jeff_abramowitz@3mail.3com.com	+ 1 408 764 5974
Mr. DAVID	BAGBY	voter	Advanced Micro Devices david.bagby@amd.com	+ 1 408 749 5425
Mr. PHIL	BELANGER	voter	XIRCOM pbelange@xircom.com	+ 1 415 691 2500
Mr. MANUEL J.	BETANCOR	voter	E.T.S.I. Telecomunicacion betancor@deimos.ulpgc.es	+ 34 28 451272
Mr. SIMON	BLACK	voter	Symbionics Networks Ltd sab@symbionics.co.uk	+44 1223 421025
Mr. JAN	BOER	voter	AT&T WCND Utrecht jan.boer@utrecht.attgis.com	+ 31 3402 97483
Dr. JONATHON Y.	CHEAH		Solectek Corporation jcheah@airlan.com	+ 1 619 450 1220 X3069
Mr. RAJIV	DHINGRA		Symbol Technologies Inc. rajivd@psd.symbol.com	+ 1 408 369 2617
Mr. WIM	DIEPSTRATEN	voter	AT&T WCND Utrecht wim.diepstraten@utrecht.attgis.com	+ 31 3402 97482
Mr. GREG	ENNIS	voter	+ 1 408 356 4775 gennis@netcom.com	
Mr. JOHN	FAKATSELIS	voter	HARRIS Corporation jfakat01@cmail.mis.semi.harris.com	+ 1 407 729 4733
Mr. MATTHEW	FISCHER	voter	Advanced Micro Devices ablmatt@brahms.amd.com	+ 1 408 749 5403
Mr. MICHAEL	FISCHER	voter	Digital Ocean Inc. mfischer@child.com	+ 1 210 614 4096
Mr. ROLAND	FOURNIER		Advanced Micro Devices roland.fournier@amd.com	+ 1 408 749 5439
Mr. ED	GEIGER	voter	Apple Computer Inc. edg@apple.com	+ 1 408 974 4907
Mr. LEE	GOLDBERG		Electronic Design	+ 1 201 393 6232
Mr. HOWARD J.	HALL	voter	WINDATA howardh@wireless.windata.com	+ 1 508 952 0170 X345
Mr. VICTOR	HAYES	voter	AT&T WCND Utrecht Vic.Hayes@Utrecht.attgis.com	+ 31 3402 97528
Mr. BRADLEY	HERRIN	voter	Standard Microsystems Corporation bradley.herrin@smc.com	+ 1 714 707 2376
Mr. DEAN M.	KAWAGUCHI	voter	Symbol Technologies Inc. deank@psd.symbol.com	+ 1 408 369 2629

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<u>First name</u>	<u>Last name</u>	<u>status</u>	<u>company</u>	<u>communications</u>
Mr. STUART	KERRY	voter	Symbol Technologies Inc. stuart@psd.symbol.com	+1 408 369 2634
Mr. JOSEPH J.	KUBLER	voter	Norand Corporation kublerj@norand.com	+1 303 442 1850
Mr. JERRY	LORAINE	voter	Symbionics Networks Ltd jl@symbionics.co.uk	+44 1223 421025
Mr. RONALD	MAHANY	voter	Norand Corporation mahanyrl@norand.com	+1 319 369 3552
Mr. DOUG	MAKOSHIMA		Advanced Micro Devices MS 17	+1 408 749 4569
Mr. BOB	MARSHALL	voter	Philips Semiconductors marshall@scs.philips.com	+1 408 991 2722
Mr. JIM	McDONALD	voter	Motorola Inc. jim_mcdonald@wes.mot.com	+1 708 576 3169
Dr. AKIRA	MIURA	voter	Panasonic Technologies Inc. miura@tadw.research.panasonic.com	+1 415 858 1000
Mr. DANIEL J.	MORELLI		Telxon dmore@teleng.eng.telxon.com	+1 216 867 3700
Mr. WAYNE D.	MOYERS	voter	WiSE Communications Inc wayne@tetherless.com	+1 408 338 7562
Mr. BOB	O'HARA	voter	Advanced Micro Devices bob.ohara@amd.com	+1 408 749 4952
Mr. MITSUJI	OKADA	voter	NEC Electronics Inc. mokada@asic.mtv.nec.com	+1 415 965 6549
Mr. AL	PETRICK	voter	HARRIS Semiconductor apetrick@cmail.mis.semi.harris.com	+1 407 729 4944
Ms. MIRI	RATNER		LANNAIR mirir@lannet.com	+972 3 6459134
Mr. BARRY	REINHOLD		University of New Hampshire bbr@unh.edu	+1 603 862 4532
Mr. JAMES A.	RENFRO	voter	Raytheon Company renfro@ed.ray.com	+1 508 490 1934
Mr. JON WALTER	ROSDAHL	voter	Novell Inc jrosdahl@novell.com	+1 801 429 3183
Mr. LEON S.	SCALDEFERRI	voter	NSA R22 lsscald@alpha.ncsc.mil	+1 301 688 0293
Mr. THOMAS	SIEP	voter	Texas Instruments siep@hc.ti.com	+1 214 995 3675
Mr. NATHAN	SILBERMAN	voter	Nortel snathan@ix.netcom.com	+1 415 940 2283

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First name	Last name	status	company	communications
Mr. DON	SLOAN		Aironet dons@telxon.com	+1 216 665 7917
Mr. MARVIN	SOJKA	voter	Aironet Wireless Comms. Inc. msojk@telxon.com	+1 216 665 7918
Mr. JOHN	SONNENBERG	voter	Pulse Engineering Inc. johnsonnenberg + asdcorp%pulse@mcimail.com	+1 619 674 8360
Mr. MIKE	TROMPOWER	voter	Aironet Wireless Comms. Inc. mtrom@telxon.com	+1 216 665 7920
Mr. TOM	TSOULOGIANNIS	voter	+1 416 299 1954 tomt@interlog.com	
Mr. SAROSH	VESUNA	voter	Symbol Technologies Inc. M.S. 160 saroshv@psd.symbol.com	+1 408 369 2657
Mr. RICHARD E.	WHITE	voter	Motorola Inc. rick_white@wes.mot.com	+1 708 576 7878
Mr. CHRIS	ZEGELIN	voter	Symbol Technologies Inc. M.S. 160 chrisz@psd.symbol.com	+1 408 369 2667
Mr. LAWRENCE H.	ZUCKERMAN	voter	Advanced Micro Devices larry.zuckerman@amd.com	+1 408 749 4934
Mr. JOHNNY	ZWEIG		XIRCOM jzweig@xircom.com	+1 415 965 5964

