

Tentative Minutes of the IEEE P802.11 Working Group

**Interim meeting
San Antonio, Texas
August 29-September 1, 1994**

Monday, August 29, 1994, AM

Vic Hayes, Chairman IEEE P802.11, called the meeting to order at 8:35. John McKown, Vice Chairman of 802.11¹⁾, was pressed into service as the recording secretary, with notes from Jon Rosdahl taken at the end of the session. Document distribution handled by Jon Rosdahl, attendance record by Leon Scaldeferri and copying by Stuart Kerry.

¹⁾The officers of the Working Group are:

<p>Mr. VICTOR HAYES Chairman IEEE P802.11 AT&T Global Information Solutions E-Mail: Vic.Hayes@Utrecht.ncr.com Phone: +31 3402 76528 Fax: +31 3402 39125</p>	<p>Mr. JOHN MCKOWN Vice Chairman IEEE P802.11 Motorola E-Mail: mckown@wes.mot.com Phone: +1 708 538 5235 Fax: +1 708 538 5251</p>	<p>Vacant Secretary IEEE P802.11</p>
<p>Mr. STUART KERRY Vice Chairman IEEE P802.11 Symbol Technologies Inc. E-Mail: stuart@psd.symbol.com Phone: +1 408 369 2634 Fax: +1 408 446 4630</p>	<p>Mr. JON WALTER ROSDAHL Vice Chairman IEEE P802.11 Novell Inc. E-Mail: jrosdahl@novell.com Phone: +1 801 429 3183 Fax: +1 801 429 7232</p>	<p>Mr. LEON SCALDEFERRI Vice Chairman IEEE P802.11 NSA E-Mail: lsscald@alpha.ncsc.mil Phone: +1 301 688 0293 Fax: +1 688 0289</p>
<p>Mr. DAVE BAGBY Chair IEEE P802.11-MAC group Advanced Micro Devices Phone: +1 408 987 2423 Fax: +1 408 987 2800 E-Mail: david.bagby@amd.com</p>	<p>Mr. LARRY VAN DER JAGT Chair IEEE P802.11-PHY group Knowledge Implementations Inc. Phone: +1 914 986 3492 Fax: +1 914 986 6441 E-Mail: kiilvdj@attmail.com</p>	<p>Mr. BOB O'HARA Editor IEEE P802.11 Advanced Micro Devices Phone: +1 408 987 2421 Fax: +1 408 987 2814 E-Mail: bob.ohara@amd.com</p>
<p>Mr. GREG ENNIS Editor IEEE P802.11 Phone: +1 408 356 4775 Phone: +1 408 356 4775 E-Mail: gennis@netcom.com</p>	<p>Mr. KERRY LYNN Editor IEEE P802.11 Apple Computer Inc. Phone: +1 408974 2394 Fax: +1 408 974 9793 E-Mail: kerlyn@apple.com</p>	<p>Mr. JAMES E. SCHUESSLER Editor IEEE P802.11 National Semiconductor E-Mail: jim@berlioz.nsc.com Phone: +1 919 254 4584 Fax: +1 919 254 5410</p>

Objectives for this meeting

OBJECTIVES MAC Group

- Final prep of MAC draft text for Nov. Letter Ballot.

B2 draft review, clarification etc.

- Remaining open issues.

RT, Frame format details, multi rates etc..

- Complete parameter values
- DTBS

OBJECTIVES PHY Group

- Finalize Air Interface Parameters
- Edit text
- Finalize LME and MAC/PHY SAP details
- Finalize CCA position

1. Opening

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

1.2 Voting rights: 1.3 Attendance list, Registration, 1.4 Logistics: Voting procedures and rules for the acquisition and loss of voting rights were explained by the Chair, along with registration procedures, billing of conference fees and assorted logistics.

1.5 Other announcements:

- 1.5.1 NTIA** The chair announced the NTIA had responded to an inquiry regarding inclusion of ISM frequencies in the 200 MHz release of federal spectrum; Mr. Bill Gamble had contacted Mr. Don Loughry. More contact is expected as the NTIA was concerned about the use of the ISM bands by 802.11-compliant equipment, and was willing to help in acquiring better spectrum.
- 1.5.2 FCC** published Report to the Secretary Dept. of Commerce on their preliminary report for spectrum allocation. Effectively rejecting the 2402-2417 MHz band.
- 1.5.3 Publication** in Investor's Business Daily of August 8. The Chair drew the attention to the article as it relates to our work.
- 1.5.4 WINForum PCS Workshop**, the objective of this workshop is to bring standards bodies together and prepare spectrum need awareness. The workshop will be held October 17, 18, 19, Dallas TX. There are sessions for the Isochronous and Asynchronous services. The chairs of the various standards bodies were invited to chair the related workshop, Vic Hayes accepting for the Asynchronous workshop. He called for contributions to that event.
- 1.5.5 FCC published UTAM plan** The chair announced the FCC has published the UTAM plan for clearing PCS spectrum near 1.9 GHz.
- 1.5.6 Wireless modem vendors** interest group, request liaison. John Rosdahl offered to act as liaison between 802.11 and the Wireless Modem Vendor's Consortium. Vic called for more information on the goals and terms of reference of this group.

2. Approval of the minutes of the previous meeting

- 2.1 Vancouver meeting (subject to quorum) 11-94/83** 41 voting members were counted present, less than the 56 required for quorum. Delayed till quorum would be available.
- 2.2 Orlando meeting (subject to quorum) 11-94/200** Delayed till quorum would be available.
- 2.3 Matters arising from the minutes** There were no matters arising from the minutes.

3. Reports

- 3.1 Report from the Executive Committee**, The chair reported on the last meeting of the 802 executive committee. They refused to support 802.11 by honoring its request for a lower quorum at interim meetings.
- 3.2 from editors** The editors reported the B2 draft is on the reflector and paper copies are available at this meeting.
- 3.3 from simulators** No report was delivered on simulation activities.
- 3.5 financial report Oshawa** meeting by Vic Hayes for Orest Storoshchuk

- av	765.00 CA\$
- food	1916.34
- income 78 @ 77 CA\$	-6006.00
- phone	4.55
- rooms	2220.00
- tax + grat	849.66
- Grand Total	-250.45

- o Via Vic 112.35 CA\$ credit card exchange rate: 1.3672 NLG/CA\$, that makes 153.60 NLG published exchange rate Aug 29:1.774 NLG/US\$, Credit to San Antonio meeting 86.59 US\$
 - o Via Orest 138.10 CA\$, depend on money order result and last fee being paid.
- Approval pending final result of transfer and quorum availability.

4. Registration of contributions Refer to doc: 94/227 for the list of relevant documents. Three new contributions were registered; /229 - /231.

5. Adoption of the Agenda **With the addition of item 7.1, Patent Issues, the agenda was adopted by consensus.**

The carrier-based IR sessions were cancelled because no participants of that group were present. The waste of money on nonrefundable meeting rooms was generally lamented.

6. Unfinished Business

6.1 Comment on updates of draft standard It was asked whether time would be spent editing the B2 draft line by line? The consensus was no --- submissions would be required.

6.2 Procedure for standards development The chair delivered a short lecture on the procedure of standards development. There (will) exist a basic standard and (probably later) a test standard. The function of the working group is to produce a draft, resolve negative vote and prepare the next draft. The executive committee votes on when to submit the resolved draft to the IEEE standards board. Balloting within the working group requires that 50% of the ballots be returned and a 75% majority of those voting. "Do not approve" votes must be accompanied by a reason.

The chair expressed the intention to send ballots to observers so that their comments can be considered.

Mr. Michael Fisher requested that commenters refer to section numbers rather than page and line because of variations in pagination.

The chair explained registration procedures for the "sponsor balloting group." Interested parties must register at plenary sessions. It was asked whether the sponsor group register was public; the chair will inquire. In response to a question from the floor, the chair stated that the working group is the body responsible for writing rebuttals to unresolved "do not approves." What is actually forwarded to the executive committee is (1) the proposed standard, (2) a summary of ballots, (3) copies of all unresolved negative votes with reasons and rebuttals and (4) proof of coordination.

The chair's presentation is available as document 94/232. The schedule for the first ballot is available in that document.

BREAK

The chair proceeded through the document list 94/227 explaining which were available and which were not.

The joint MAC/PHY interface ad-hoc meetings were cancelled because the members were generally weary of interminable night meetings.

The chair announced Michael Fisher had available for copying a diskette with rules and references for voting.

The chair asserted the schedule provides adequate time for studying the draft before voting.

7. New Business

7.1 Patent issues Mr. Glen Sherwood complained that the patent statements received to date from participants are merely "vague statements that there may be coverage" and moved as follows:

Motion # 1: Companies be required to disclose patent numbers or patents pending for any techniques, ideas or algorithms that are relevant to the draft standard, and the portions of the standard to which they are applicable, by no later than the November meeting.

Moved by: Glen Sherwood
Seconded by: Wayne Moyers

Motion Discussion: Mr. Sherwood then declined Mr. Michael Rothenberg's proposal to add "failure to do so will be considered as a waiver to use this technology."

Mr. Bob O'Hara asked the chair to rule on whether Motion 1 was out of order because the membership of the

working group resides in the individual participants, not their employers.

Mr. Rothenberg asserted there are precedents for coordinating companies and individuals. Mr. Dave Bagby advised asking the IEEE's head office IPR people. The chair ruled the motion in order and asked for a motion to table motion 1 until Wednesday PM.

Motion # 1.1: *to place motion 1 on the table till Wednesday*

Moved by: Dave Bagby
Seconded by: Wayne Moyers

Motion Discussion: none

Approved: 37 Opposed: 2 Abstain: 1 **Motion #1.1 passes:**

Motion 1 placed on the table till Wednesday

Wednesday PM August 31, 1994

9. Opening The roll was called, the document list reviewed and the agenda approved by consensus.

9.4 Announcements

The chair announced that the venue for the November meeting, as members would receive directly from the IEEE, contained the following changes: the 1-800 number for the reservation of the hotel was changed, the contact addresses for the Classic Consultant International people and a schedule for the shuttle service was made available. The September mailing would contain the updated information.

9.5 Article on standards debate Mr. Bagby asked the chair to contact the editor with the message that the quoted sources were not authorized to speak for 802.11. The chair will attempt to contact the author.

9.6 Tabled motion 1. Regarding Motion 1 of the Monday session, the chair reported he had contacted the IEEE which expressed the tentative opinion that the existing IPR statements are sufficient. The chair expected further direction, possibly by Thursday.

Motion # 1.2: *To retable motion 1.*

Moved by: Dave Bagby
Seconded by: Jon Rosdahl

Motion Discussion: none

Approved: 27 Opposed: 2 Abstain: 5 **Motion #1.2 passes**
Motion 1 re-tabled

10. MAC/PHY (interface) Issues

The following submissions were deemed to address MAC/PHY interface issues: 94/188, /124, /164 and /234. It was decided not to discuss **94/188**.

Mr. Chris Zegelin reviewed **94/124** and moved as follows:

Motion # 2: *The editors be permitted to modify the draft standard to reflect the contents of 94/124.*

Moved by: Chris Zegelin
 Seconded by: Greg Ennis

Motion Discussion: Mr. Bagby inquired whether the motion was sufficiently clear to the editors; they assured him it was. Mr. Zegelin stated, for the benefit of Mr. Pablo Brenner, that 94/124 does not address setting the NAV and that 94/124 is intended as clarification, not as a change in functionality.

Approved: 31 Opposed: 0 Abstain: 7 *Motion #2 passes as recommendation*

Mr. Barry Dobyms presented **94/164**.

BREAK

Discussion of 94/164 continued.

Motion # 3: *The supported _rates, requested_rate and granted_rate elements and the definitions of BSS_base_rate_set, extended_rate_set, station_basic_rate and PLCP_rate, as described in 94/164 be incorporated into the draft standard 93/20 and that the transmit control, multicast and broadcast frames be transmitted only at the station_basic_rate and that this change in behavior be incorporated into the draft.*

Moved by: Barry Dobyms
 Seconded by: Wayne Moyers

Motion Discussion: after some discussion, Dave Bagby moved:

Motion # 3.1: *Postpone consideration of Motion 3 until after presentation of 94/234*

Moved by: Dave Bagby
 Seconded by: Michael Fischer

Motion Discussion: After some discussion, Mr. Bagby moved to call the question and Mr. Bob Egan seconded. The ayes prevailed.

Approved: 27 Opposed: 13 Abstain: 4 *Motion # passes*

Mr. Michael Fisher presented 94/234 and Motion 3 above was redisplayed.

Motion # 3.2: *Amend Motion 3 to delete requested_rate and granted_rate elements*

Moved by: Mike Rothenberg
 Seconded by: Pablo Brenner

Motion Discussion: Mr. McKown called the question, Mr. Jim Renfro seconding; the ayes prevailed.

On a voice vote on motion 3.2, the nays prevailed *Motion #3.2 fails*

Mr. Renfro called the question (motion 3), Mr. Ed Geiger seconding; the ayes prevailed.

Approved: 26 Opposed: 16 Abstain: 4 *Motion #3 fails*

11. PHY issues Acting Chairman Jim McDonald reported the PHY group had agreed on a contention slot duration of 50 microseconds.

12. MAC issues

Chairman Bagby of the MAC group moved as follows:

Motion # 4: *Documents 94/068r3 and 94/050r4 shall be incorporated into the 802.11 draft standard, rev B3*

Moved by: Dave Bagby
Seconded by: Barry Dobyns

Motion Discussion: Mr. Geiger called the question, Mr. Rothenberg seconding; the ayes prevailed

Approved: 29 Opposed: 12 Abstain: 3 *Motion #4 fails (technical)*

Motion # 5: *Document 94/050r4 shall be incorporated into the 802.11 draft standard, rev B3*

Moved by: Jeff Rackowitz
Seconded by: Maurice France

Motion Discussion: Mr. Dobyns called the question, Mr. Leon Scaldeferri seconding; the ayes prevailed

Approved: 29 Opposed: 6 Abstain: 6 *Motion #5 passes as recommendation*

Noting that the Direct Sequence PHY spec had just been incorporated into the joint MAC/PHY document without ever having been approved by the PHY group, Mr. Geiger moved as follows:

Motion # 6: *That the PHY group be disbanded*

Moved by: Ed Geiger
Seconded by: Bob Egan (as a personal courtesy to Mr Geiger)

Motion Discussion: Mr. Dobyns called the question, Mr. Arthur Coleman seconding; the ayes prevailed

Approved: 2 Opposed: 28 Abstain: 9 *Motion #6 fails*

13. Adjourn meeting adjourned 5:31 PM

Thursday afternoon September 1, 1994

14. Opening Chair, Vic Hayes, opened the meeting at 13:10

14.1 Announcements

14.1.1 WINForum Workshop Mr. Hayes again called for participation in the WINForum workshop in Dallas. 802.11 attendance list updates are upcoming on the bulk reflector.

14.1.2 Attendance list update Vic requested to update the master attendance list if necessary and to check the entry for the bulk e-mail list as the draft for the Frequency Hopper specification will be distributed via this channel..

14.1.3 Vice Chairmen There are now 4 Vice Chairman, Mr. Rosdahl, Mr. Kerry and Mr. Scaldeferri having been elevated from their previous titles in recognition of their otherwise thankless efforts.

14.2 Document list update Stuart added documents /238a and /239 to the document list (94/227).

14.3 Agenda adjustments the agenda was adopted by consensus.

15. Reports

15.1 MAC/PHY interface ad-hoc group No report as they did not meet

15.2 MAC group Mr. Bagby reported on various routine events within the MAC group and brought forward the motions below. The italicized text represents material presented by Mr. Bagby during his report.

Goals from July 94 mtg

- *Prep of MAC draft text before Nov Letter Ballot.*
 - *Significant work done, revisions will be in B3.*
- *DTBS*
 - *Mechanisms adopted.*
- *Remaining major subjects.*
 - *Frame formats, RT, multi rates etc.*
 - *discussed, decisions in report.*
- *Complete MAC parameter values*
 - *not completed, will work on before november.*

Papers Discussed

94/180: Doing Without RTS

- *Motion to adopt text from 180 as amended:*
 - *Usage of MPDU, MSDU corrected, no default value.*
 - *Actual final text in MAC minutes.*
 - *MAC vote: 19, 0, 5 - Passed*

Motion # 7: *The Plenary adopts the language proposed in 94/180 as amended above and presented exactly in the MAC minutes*

Moved by: Dave Bagby
 Seconded by: Jon Rosdahl

Motion Discussion: none

Approved: 30
recommendation

Opposed: 0

Abstain: 3

Motion #7 passes as

94/181: Standard Randomness

- *Backoff random func*
- *No motion made - Author withdrew based on comments.*

Frame Formats (format / functionality)

- *94/170, 170a: Frame format for the MAC protocol*
- *94/230: Frame formats*
- *94/213, 213a, 214a: MAC frame formats*
- *Discussion resulted in eve session.*

– *Identified what was common. Format priorities straw poll:*

- *Correct functionality first*
- *Efficiency second*
- *Several kinds of efficiency:*
 - *Uniformity*
 - *Implementation*
 - *Processing*
 - *Byte / bit counts*

MAC frame formats

- *See 94/236.*
- *94/236 has 9 authors and more contributors!*
- *Process*
 - *Identified deltas from B2.*
 - *Resolved differences.*
 - *Created common proposal.*

94/236...

- *Header Ctrl field bits*
 - *Separated CF frame type*
 - » **Added a type for CF frames.**
 - *Allowed enough bits for all ctrl info bits in all frames in one octet.*
 - *All frame types (except CF)*
 - » **All B2 Ctrl bits present.**
 - *CF frame type*
 - » **All B2 Ctrl Bits, but...**
 - » **CF ack, CF poll functionality to be detailed by mike f, wim d, tim p.**
 - *maybe a bit, subtype(s) or combo.*
 - *Probably one bit will do.*
 - *“Extra” Reserved bits?*
 - » **Only enough to pad required octets, not extras.**
- *Encoding issues*
 - *Work will continue in light of frame format progress made during mtg.*
 - *Withdrawn from agenda with consent of authors*
 - » **94/215, 215a: Encoding of MAC frames.**
 - » **94/228: Shorter Elements**
- *Issue 20.3: Frame formats*

» **ref doc 94/236**

– MAC Vote: 13, 0, 6 - Passed

Motion # 8: *That issue 20.3 be closed and updated to reflect the frame format decisions reported above.*

Moved by: Dave Bagby
Seconded by: Leon Scaldeferri

Motion Discussion: Mr. Wim Diepstraten: These changes include some functionality changes.

Mr. Bagby: Not everyone agrees with that assertion.

Mr. McKown: How will you vote?

Mr. Zegelin and Mr. Diepstraten: We will abstain.

Approved: 19 Opposed: 0 Abstain: 14 **Motion #8 passes as
recommendation**

CRC 32

- 94/231: Error control in mac frame formats
- Requested change adopted before paper presented.

Motion # 9: *That all frames use a common CRC as defined 94/230 & 213 (with the extra paren in section 2 removed..)*

Moved by: Dave Bagby
Seconded by: Leon Scaldeferri

Motion Discussion: none

Approved: 33 Opposed: 0 Abstain: 0 **Motion #9 passes as
recommendation**

Post 236 adoption minor changes:

- Shift table 4-1 so req/resp are even/odd for numbers.
– MAC vote: unan

Motion # 10: *Shift table 4-1 so req/resp are even/odd for numbers*

Moved by: Dave Bagby
Seconded by: Jon Rosdahl

Motion Discussion: none

Approved: 32 Opposed: 0 Abstain: 0 **Motion #10 passes as
recommendation**

Motion # 11: *Change name of VIA to BSS-ID*

Moved by: Dave Bagby
Seconded by: Leon Scaldeferri

Motion Discussion: none

Voice vote on motion without nays, unanimous **Motion #11 passes as
recommendation**

Frame Formats (Additional Msg contents)

- 94/171, 171a: PHY Dependant Elements for Frames

- *Added Phy dependent elements from 171:*
 - w/ change of geographic location -> regulatory domain
 - MAC vote: 16, 2, 4 - Passed

Motion # 12: *Add the PHY-dependent elements from 94/171 with change of "geographic location" to "regulatory domain"*

Moved by: Dave Bagby
Seconded by: Jon Rosdahl

Motion Discussion: none

Approved: 28 Opposed: 1 Abstain: 3 **Motion #12 passes as
recommendation**

- *Make Fragmentation field a "present when needed" field:*
 - MAC vote: 5, 11, 4 - Failed

Frame Formats (misc issues)

- *94/178: How Long Is Long Enough ?*
 - Field already 2 octets by the time the paper came up on the agenda.
- *94/179: Making Hash*
 - Made moot by frame decisions, no more hash.

Power Mgt

- *94/172: The SPM (Simple Power Management)*
 - No motions made after straw poll by author

Multi-rates

- *94/164: Required MAC functions to support MultiRate PHYs*
 - No formal motion made
 - Subject was in Wed Joint M/P session.

B2 review

- *94/185: Inconsistencies & Omissions in 94/20B2*
 - CF capable vs poll
 - » **Add CF capable indication to Assoc & Reassoc msgs**
 - » **Add CF mgt msg to put CF capable a station on/off poll list.**
 - » **MAC vote: 7, 0, 3 - Passed**

Motion # 13: *Add CF capable indication to association & reassociation messages; add CF management message to put a CF-capable station on/off the poll list*

Moved by: Dave Bagby
Seconded by: Leon Scaldeferri

Motion Discussion: none

Approved: 26 Opposed: 0 Abstain: 7 **Motion #13 passes as
recommendation**

- *Restriction of numbers of STA per BSS due to encodings of TIM / elements.*
 - » **Moved: Encoding combination of TIMs & elements limits STAs/BSS - remove accidental limitation.**
 - » **Vote: unan**
 - » **Action: Mike F to submit proposed details.**

- Many editorial corrections referred to editors.
- 94/209: PCF state machines
 - No paper avail at presentation time, will be in mailing.
 - No discussion.
- 94/229: B2 comments
 - Beacon interval referenced to TSF timer, timer in $\text{mod}(n * \text{beacon interval})$. TS range = $0 - (n * \text{beacon interval})$.
 - » **Wim to provide detailed language proposal.**
- MAC Chairman and Editors thank the people who took the time to read and comment on B2 details!
- More such review is anticipated.
- Please categorize review comments with:

Editorial:

- Truly editorial that the editors can fix w/o group action.

Factual Conflict:

- ex: Section A says $X=5$ while B says $X=12$, which is it?

Minor functionality question or problem

- ex: CF capable vs poll

Reference all comments to proposed B3 draft section #.

DTBS

- Much progress made
 - 94/176: Concerns with Priority Assertion Signal based – Motion: None made. Paper informative of problems.
- 94/150d: DTBS alternatives
 - generated discussion
- 94/196: Issues impacted by DTBS proposals
 - Will be input to Nov. Issue log cleaning.

Moved: That not all Phys will be required to support the optional MAC DTBS functionality. Each Phy will specify if it supports this or not as part of it's standard.

- MAC Vote: 14, 5, 1 - passed

Motion # 14: *Not all Phys will be required to support the optional MAC DTBS functionality. Each Phy will specify if it supports this or not as part of its standard*

Moved by: Dave Bagby
 Seconded by: Leon Scaldeferri

Motion Discussion: After some discussion, the question was called by Mr. Egan and seconded by Mr. Rosdahl; the ayes prevailed.

Approved: 15 Opposed: 10 Abstain: 6 **Motion #14 fails**

DTBS

- *Moved: There shall be only one mechanism to support DTBS within each phy.*
 - MAC vote: 15, 2, 1 - passed

Motion # 15: *There shall be only one mechanism to support DTBS within each PHY*

Moved by: Dave Bagby
 Seconded by: Dave Roberts

Motion Discussion: After some discussion, the question was called by Mr. Egan, Mr. Dave Roberts seconding; the ayes prevailed.

Approved: 26
recommendation

Opposed: 2

Abstain: 2

Motion #15 passes as

DTBS

- *Moved: There shall only be one common MAC mechanism to support DTBS across all PHYs.*
– MAC Vote: 5, 9, 5 - failed
- *Moved: That the MAC provide only DTBS Mechanism of Parameterized Active / passive, per phy, as described in 94/150d.*
– MAC Vote: 7, 6, 2 - passed

Motion # 16: *The MAC shall provide the DTBS mechanism of parameterized active/passive, per PHY, as described in 94/150d*

Moved by: Dave Bagby
Seconded by: Leon Scaldeferri

Motion Discussion: Mr. Egan called the question, Mr. Rosdahl seconding. The vote was 18 in favor of calling the question, 8 opposed and 4 abstaining. The question was called.

Approved: 14

Opposed: 6

Abstain: 14

Motion #16 fails

Mr. Bagby: A consequence of these actions is that there can be no Distributed Time Bounded Service component in the November ballot.

Mr. Egan: People didn't understand the proposal. That is evident in the large number of abstentions. Mr. Chairman, please ask Mr. Diepstraten if he feels able to proceed with the draft (the chair did so).

Mr. Diepstraten: regrets the lack of discussion.

Chair: the MAC group is free to continue working on DTBS.

Goals for November

- *Everyone should **** READ **** the B3 draft before the November meeting.*
- *Unsettled subjects:*
– *Wired Equivalent Security*
- *Issues log clean up.*
– *DTBS decisions affects lots of issues.*
- *Encoding proposal.*
– *Work going on between mtgs, anticipating a consensus recommendation next meeting.*
- *In November, plan on (minor) draft tweaking before (internal) 802.11 letter ballot.*
– *Executive Cmtee Attitude*

15.3 PHY group

Jim McDonald, acting Chairman of the PHY group, introduced the chairmen of the ad-hoc groups to collectively deliver the PHY report. Roger Samdahl starting with the **IR PHY ad-hoc group**.

Motion # 17: *The proposed text change in 94/182 be incorporated into the draft standard /20b2 sections 7 and 11 in its next revision*

Moved by: Roger Samdahl
Seconded by: Barry Dobyons

Motion Discussion: none

Approved: 30
recommendation

Opposed: 0

Abstain: 3

Motion #17 passes as

Mr. Samdahl expressed thanks to Mr. Rui Valadas and Mr. Dobyms for their hard work.

Chair: what shall we do regarding carrier-based signalling?

Mr. Samdahl: We will resolve it via the email reflector, i.e., we shall sound the degree of interest.

Jan Boer delivered the report from the **DSSS PHY ad hoc group**. His presentation material is in italics below.

all issues are closed
spectrum mask
carrier suppression
CCA
modulation accuracy
modified PLCP header
changed signalling field
(rate) from code to number
general edits doc /50
placed a temporary list of edits to be
included in /20r3

Wayne Moyers reported for the high speed frequency hop group. All high-speed issues are closed. Six submissions were considered. the group adopted 94/210 and offered final instructions to the editor. The rate change concepts of /164 were accepted and presented to the full working group and MAC. The motion lost by a few votes in the full group and will be retried in November. The rate change mechanism of /50 was accepted. MIB issues will be addressed in November.

At this time Mr. McKown departed and Vice Chairman Rosdahl took over as recording secretary.

Jim McDonald reported for the **FHSS ad-hoc group**.

Dwell Time issue question discussed. When will the Group be asked to adopt the spec.? As stated earlier, Dwell Time is an issue that needs to be defined. Should the FH define it or shall the MAC group or the Joint Group? The question is shall the dwell be one value or a range or a set? This is to be discussed on the reflector.

Bit times are not in an integral number of bits. It is important to be able to determine the duration in setting the NAV. The group has decided that there shall be no killer patterns. Discussion on the bit stuffing that is to be done. Insertion is per bits.

This is the end of both the FH group report and the PHY group report

- 15.4 Editor's report** There is a lot of change to the B2 draft to be done to make the B3. We are concerned that the large number of small words here and there may miss a problem. The next version will be 94/20B3 proposed. Forward Editorial. Comments to the editors as soon as you find them.

16. Unfinished business

- 16.1 Recap of output documents** There were none

- 16.2 Recap of document distribution** some documents will be taken from the list as they are not needed in the mailing. Also, the patent specification attached to document 94/234 will not be included in mailings as it could be ordered at any patent bureau.

16.3 Next Meeting

* **Objectives for next meeting** to be taken from the reports and sent in by the subchairs.

* **Mailing Dates:** original dates Sept. 16 and Oct. 7 will be changed into September 23 to let the editors as much time to prepare the next draft and to let the members have ample time to study this draft before the November meeting.

16.5 Future Meetings

Chair shows schedule for future plenary and intermediate meetings

- 16.4 Other Intermediate Meetings required?** The PHY group requests for a meeting on Monday morning.

Motion # 18: *Mail a Letter Ballot to the 802.11 Voting Membership with the Following question: Do You Accept the Recommendations resulting from the August interim meeting of 802.11?*

Moved by: Dave Bagby
Seconded by: Bob O'Hara

Motion Discussion:

Greg: What is the time requirements for Letter Ballot?

Vic: I think that there is time, But I will check.

Dave B: Add the following to the Motion: If the 802.11 Chairman determines that there is sufficient time before the November meeting. It was acceptable to the Seconder.

Motion # 18: *If the 802.11 Chairman determines that there is sufficient time before the November meeting, mail a Letter Ballot to the 802.11 Voting Membership with the Following question: Do You Accept the Recommendations resulting from the August interim meeting of 802.11?*

Mike F: I think that there will have to be a separate mailing to get it done.

Jon: What is the list of doc are available.

Stuart : The only minutes that are currently missing are all the PHY minutes.

Approved: 20 Opposed: 0 Abstain: 0 **Motion #18 passes**

The chair will execute this motion.

17 New business

17.1 Documentation issue

Motion # 19: *That submission papers shall be provided in hard and in soft copy format to the documentation officer at least half a day before the scheduled agenda-item. Each author shall provide the number of copies as specified by the chair.*

Moved by: Stuart Kerry
 Seconded by: Jon Rosdahl

Motion Discussion:

Concern over the Half day length prior to the presentation. Waivers can be given by the 802.11 chair.
 We all agree we want the material ahead of time, but at the same time we want to allow speedy papers. available.
 Question over the time delay on copying. Questions on who will give the waivers. Questions on whether this applies differently to bring the papers and copies. answer no.
 Concern that having the Hard and Soft copy is not going to have a potential difference.

Approved: 17 Opposed: 0 Abstain: 4 *Motion #19 passes*

The chair will handle this motion as a change to the procedures of 802.11.

Michael Fischer, host for this meeting reports that 145 sheets per person were copied by the host.

The Chair thanked Michael for the excellent preparation and hosting of the meeting and complimented the service from the hotel. Dave Bagby was impressed that the executive meeting coordinator (Richelle Kreider-James stood nearly behind him the moment he needed assistance.

Suggestion that the IEEE might do a plenary here in the future.

18. Closure The meeting was closed at 16:30 hours

Tentative Meeting Schedule

Date	Month	Year	Place	Type	Location	Host
7-11	Nov	1994	Incline Village, NV	Plenary	Hyatt Regency, Lake Tahoe	
9-12	Jan	1995	San Jose	Inter	LeBaron	WiSE & Tetherless
6-10	Mar	1995	West Palm Bch, FL	Plenary	Ramada	
8-11	May	1995	Salt Lake City, UT	Inter	Open	Novell
10-14	July	1995	Maui, HI	Plenary	Hyatt Regency	
TBD	Sept	1995	TBD	Inter	Open	
6-10	Nov	1995	Montreal, PQ	Plenary	Queen Elizabeth Hotel	
11-15	March	1996	La Jolla, CA	Plenary	Hyatt Regency	
8-12	July	1996	Netherlands	Plenary	?	
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. DAVID	BAGBY	voter	Advanced Micro Devices	+1 408 749 5425 david.bagby@amd.com
Dr. FRÉDÉRIC	BAUCHOT	voter	IBM France	+33 92 11 55 92 fbauchot@vnet.ibm.com
Mr. JAN	BOER	voter	AT&T GIS WCND Utrecht	+31 3402 97483 jan.boer@utrecht.ncr.com
Mr. ALESSANDRO M.	BOLEA		Raytheon Company	+1 508 490 1857 alessandro_m_bolea@ccmail.ed.ray.com
Mr. PABLO	BRENNER	voter	LANNAIR	+972 3 6459127 pablo@lannet.com
Dr. JING-SHIANG	CHENG		NDC Communications Inc.	+1 408 428 9108
Mr. ARTHUR	COLEMAN	voter	Proxim Inc.	+1 415 960 1630 arthur@proxim.com
Mr. MARK	DEMANGE	voter	Motorola	+1 708 576 7913 mark_demange@wes.mot.com
Mr. WIM	DIEPSTRATEN	voter	AT&T GIS WCND Utrecht	+31 3402 97482 wim.diepstraten@utrecht.ncr.com
Mr. BARRY A.	DOBYNS	voter	Photonics	+1 408 955 7930 X230 dobyms@acm.org
Mr. ROBERT J.	EGAN	voter	Digital Equipment Corp	+1 508 486 5746 b_egan@nac.enet.dec.com
Mr. GREG	ENNIS	voter		+1 408 356 4775 gennis@netcom.com
Mr. JOHN	FAKATSELIS		HARRIS Corp.	+1 407 729 4733 jfakat01@ccmail.mis.semi.harris.com
Mr. MATTHEW	FISCHER		AMD	+1 408 749 5403 abl matt@brahms.amd.com
Mr. MICHAEL	FISCHER	voter	Digital Ocean Inc.	+1 210 614 4096 mfischer@child.com
Mr. MAURICE	FRANCE	voter	Turner Gold France Engineering	+1 310 373 9515 hmfrance@aol.com
Mr. ED	GEIGER	voter	Apple Computer Inc	+1 408 974 4907 edg@apple.com
Mr. EUGEN	GERSHON	voter	Advanced Micro Devices	+1 408 749 4944 eugen.gershon@amd.com
Mr. TIM	GODFREY		Digital Ocean	+1 913 888 3380 72617.2125@compuserve.com
Dr. RON	HAM		Thomas-Conrad Corp.	+1 512 834 6013 rham@klaven.tci.com

Appendix 1 (continuation)

Attendance list

<u>First name</u>	<u>Last name</u>	<u>Status</u>	<u>Company</u>	<u>communications</u>
Dr. JAMES	HARRER		Valor Electronics, Inc.	+1 619 537 2643
Mr. VICTOR	HAYES	voter	AT&T GIS WCND Utrecht	+31 3402 97528 Vic.Hayes@Utrecht.ncr.com
Mr. JOHN	HAYES		GEC Plessey Semiconductor Inc.	+1 408 461 6167 hayes@sv.gpsemi.com
Mr. BRADLEY	HERRIN		Standard Microsystems Corporation	+1 714 707 2376 bradley_herrin@west.smc.com
Mr. STEPHEN	HOOTSTEIN		Raytheon Company	+1 508 470 9527
Mr. CHARLIE	JENKINS	voter	GEC Plessey	+1 408 439 6055 charlie@sv.gpsemi.com
Mr. FRED	KAMP	voter	Philips Semiconductors	+1 408 991 4593 kamp@sigscvl.scs.philips.com
Mr. STUART	KERRY	voter	Symbol Technologies Inc	+1 408 369 2634 stuart@psd.symbol.com
Mr. JOSEPH J.	KUBLER	voter	Norand Corporation	+1 303 442 1850 kublerj@norand.com
Ms. ISABEL	LIN	voter	Toshiba America Information Systems Inc	+1 714 583 3854 isabell@tais.com
Mr. JERRY	LORAIN	voter	Symbionics Ltd	+44 223 421025 jl@symbionics.co.uk
Mr. BOB	MARSHALL		Philips Semiconductors	+1 408 991 2722
Mr. RAY	MARTINO JR.		Symbol Technologies Inc.	+1 408 369 2646 raymj@psd.symbol.com
Mr. NOBUO	MATSUO		Matsushita Electric Works	+1 408 433 3386 mat@ca.mew.com
Mr. JIM	McDONALD	voter	Motorola	+1 708 576 3169 cjm015@email.mot.com
Mr. JOHN	McKOWN	voter	Motorola	+1 708 538 5235 mckown@wes.mot.com
Dr. AKIRA	MIURA	voter	Panasonic Technologies Inc.	+1 415 858 1000 miura@tadw.research.panasonic.com
Dr. FARROKH	MOHAMMADI		National Semiconductor	+1 408 721 5861 cfomsc@tevm2.nsc.com
Mr. WAYNE D.	MOYERS	voter	WiSE Communications Inc	+1 408 338 7562 moyers@netcom.com
Mr. BOB	O'HARA	voter	Advanced Micro Devices	+1 408 749 4952 bob.ohara@amd.com

Appendix 1 (continuation)

Attendance list

<u>First name</u>	<u>Last name</u>	<u>Status</u>	<u>Company</u>	<u>communications</u>
Mr. MASAHIRO	OOKI		NEC Corporation	+81 44 856 8163 ohki@pccrd.ho.nec.co.jp
Mr. JIM	PANIAN	voter	IBM	+1 919 254 4609 jpanian@ralvm6.vnet.ibm.com
Mr. AL	PETRICK	voter	HARRIS Semiconductor	+1 407 729 4944 apetrick@ccmail.mis.semi.harris.com
Mr. TIM	PHIPPS	voter	Symbionics Ltd	+44 223 421025 tgcp@symbionics.co.uk
Mr. JEFF	RACKOWITZ	voter	INTERMEC Corp	+1 206 348 2600 x6307 jeffr@intermec.com
Mr. JAMES A.	RENFRO	voter	Raytheon Company	+1 508 490 1934 renfro@ed.ray.com
Mr. DAVE	ROBERTS	voter	Advanced Micro Devices	+1 408 749 5461 david.roberts@amd.com
Mr. JON WALTER	ROSDAHL	voter	Novell Inc	+1 801 429 3183 jrosdahl@novell.com
Mr. MICHAEL	ROTHENBERG	voter	LANNAIR	+972 3 6458422 ieee_802.11-distr@lannet.com
Mr. CHANDOS	RYPINSKI	voter	LACE Inc.	+1 415 389 6659 rypinski@netcom.com
Mr. ROGER N.	SAMDAHL	voter	Photonics Corporation	+1 408 955 7930 70110.360@compuserve.com
Mr. KULBIR	SANDHU	voter	Hitachi Micro Systems Inc.	+1 408 456 2118 ksandhu@hmsi.hitachi.com
Mr. LEON S.	SCALDEFERRI	voter	NSA R22	+1 301 688 0293 lsscald@alpha.ncsc.mil
Mr. GLEN	SHERWOOD	voter	INTRERMEC Corp	+1 206 356 1791 glens@intermec.com
Mr. THOMAS	SIEP		Texas Instruments	+1 214 995 3675 siep@hc.ti.com
Mr. MARVIN	SOJKA	voter	Aironet Wireless Communications Inc.	+1 216 665 7918 msojk@telxon.com
Mr. PAUL F.	STRUHSAKER	voter	Aironet Wireless Communications Inc.	+1 216 665 7919 pstru@telxon.com
Mr. MACK	SULLIVAN	voter	Proxim Inc.	+1 415 960 1630 mack@proxim.com
Mr. JONATHAN	TATE		Pulse Engineering Inc.	+1 619 674 8359
Mr. MIKE	TROMPOWER	voter	Aironet Wireless Communications Inc.	+1 216 665 7920

Appendix 1 (continuation)

Attendance list

<u>First name</u>	<u>Last name</u>	<u>Status</u>	<u>Company</u>	<u>communications</u>
Mr. RYAN H.	TZE	voter	Toshiba American Information Systems	+1 714 587 6769 ryant@tais.com
Mr. RUI T.	VALADAS	voter	Universidade de Aveiro	+351 34 381937 rv@zeus.ci.ua.pt
Mr. SAROSH	VESUNA	voter	Symbol Technologies Inc	+1 408 369 2657 saroshv@psd.symbol.com
Mr. HIROHISA	WAKAI	voter	SHARP	+1 510 644 9267 wakai@sharp.co.jp
Mr. RICHARD E.	WHITE	voter	Motorola	+1 708 576 7878 rick_white@wes.mot.com
Mr. IWEN	YAO	voter	RN Communications Inc.	+1 508 256 4950
Mr. CHRIS	ZEGELIN	voter	Symbol Technologies Inc	+1 408 369 2667 chrisz@psd.symbol.com
Mr. LAWRENCE H.	ZUCKERMAN	voter	Advanced Micro Devices	+1 408 749 4934 larry.zuckerman@amd.com