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**IEEE P802.11  
Wireless LANs**

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**Tentative Minutes of the IEEE P802.11**

**Full Working Group  
Interim Meeting  
Westford, Massachusetts**

**14 to 18 September 1998**

**Monday, 14 September 1998**

- 1 Opening Meeting called to order by:** Vic Hayes at 8:30AM, Agenda of 51st session of 802.11 is in doc.:IEEE P802.11 11-98/287. Al Petrick acting, secretary for George Fishel <sup>1)</sup> is present and ready to take the notes.
- 2 Objectives for this meeting**
  - 2.1 **Continue the consensus process for TGa and TGb**
  - 2.2 Review any outstanding sponsor ballot issues.
  - 2.3 Further work in study group.
  - 2.4 Graphic outline changes; 1) No study group meeting on Tuesday. This is reserved for WPAN.
- 3 Roll Call:** People in the room were invited to introduce themselves by name and company. There were 45 people in the room.
- 4 Voting rights:**
  - 4.1 Participation in debates, moving and seconding is only permitted by voting members, in all 802.11 meetings (at all levels). The subgroup chairs may permit observers to participate in debates.
  - 4.2 Voting at the working group level is by voting members only. Chair may permit observers to participate in debate.
    - 4.2.1 To become a voting member:

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<sup>1)T</sup> The officers of the Working Group are:

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- 4.2.1.1 Participate in at least 2 out of 4 consecutive plenary meetings. Voting rights start at third meeting.
- 4.2.1.2 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
- 4.2.1.3 All members have voting rights at task group meetings
- 4.2.2 Voting rights can be maintained:
  - 4.2.2.1 By participation in 2 plenary meetings within 4 consecutive plenary meetings
  - 4.2.2.2 One interim may be substituted for a plenary
- 4.2.3 Voting rights may be lost:
  - 4.2.3.1 After failing to pay the conference fee
  - 4.2.3.2 After missing two out of three consecutive letter ballots
- 4.3 Current state of member status:
  - 4.3.1 Voting members (98)
  - 4.3.2 Aspiring voting members (xx)
  - 4.3.3 Nearly voting members (xx)
- 4.4 Attendance List, Registration
  - 4.4.1 Administration: The attendance list was circulated, Anil Sawalka supervising - 75% attendance according to the attendance list is required to qualify for participating in 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.
    - 4.4.1.1 Important for administration of voting rights that the attendance book is used properly.
    - 4.4.1.2 Sign per meeting (morning, afternoon, evening). Do not sign ahead.
    - 4.4.1.3 Place initials. Do not cross or underline. You must attend the session after signing.
    - 4.4.1.4 Circle the letter corresponding to the meeting you attend when signing (F=full 802.11, P=PHY, M=MAC group).
- 5 Registration:** You pay full plenary costs if you attend more than ½ hour of any meetings for the week. The fee is \$300 on-site for plenary. However the fee for this session is \$141 for AV equipment, and banquet food. Payment will be handled at the front desk. Attendees not staying at the hotel will pay by credit card. Failure to pay causes loss of credit for voting rights.
- 6 Check E-mail addresses in the book:**
  - 6.1 Some addresses have been struck, or have a \$-sign added to the right - those received complaints from the reflector
  - 6.2 Please strike your e-mail address if you do not use it. If you do not disagree to receiving very long files, mark bulk e-mail with YES.
- 7 Logistics:** Paper document distribution is done using pigeon holes. Paper distribution is only for those members not having a PC. You will find your copies and messages in the referenced location in the expanding file folders in the slot *in front of* your name. Electronic distribution is also available.
  - 7.1 Conference fee to be paid through IEEE802 registration office at the hotel.
  - 7.2 Copying and collection of files is managed by Harry Worstel. Al Petrick assists in pigeonhole stuffing. Harry is also in charge of document numbers. Before a submission is presented, a document number must be assigned by Harry and a file copy on diskette in Office 95 submitted using the 802.11 templates for record and distribution. Each submitter must provide four (4) paper copies for pigeon hole distribution.

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- 7.3 Coffee breaks at 10 AM and 3 PM. Noon to 1:00 PM lunch, printing is available in the hotel 802.11 office.
- 7.4 Document distribution: The primary dissemination of documentation is electronic file distribution. However three (3) mediums will be used. They are: a) 802.11 network b) flash memory card, c) diskettes.
- 7.5 Sign in for a slot, remember the letter and number (this is for members not having electronic access. 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.
- 7.6 All files must use the IEEE802.11 templates for word documents and PowerPoint. Vic Hayes updated the template for PowerPoint files.
- 8 IEEE Patent Policy** Vic Hayes, 802.11 chair explained the IEEE Patent Policy as per Clause 5 of the IEEE Standards By-Laws and per Clause 6.3 of the IEEE Standards Operations Manual. He specifically asked for notification from members of patents applicable to the Published standards or draft standard and that patent holders submit the requested statement.
- 9 Individual Representation** All attendees are representing themselves as individuals and not companies and/or any special organization.
- 10 Anti-Trust Laws** Discussion of prices are disallowed in 802.11 sessions, because of the threat of price fixing. The price fixing and discussions are governed by Anti-Trust Laws.
- 11 Other announcements**
- 11.1 Volunteers needed for the preparation of the mailing on Friday.
- 11.2 RevCOM text still needs to be completed. It is critical that the draft is completed in order to get final approval of the standard. Bob O'Hara found a volunteer from Eastman Kodak - Allen Habourling to manage and complete the RevCom editorials.
- 11.3 Attacks on spectrum in 5GHz globally. See document 98/313
- 12 Recognition:** No input at this time
- 13 Approval of the minutes of previous meetings**
- 13.1 Minutes of the LaJolla, California meeting approved 11-98/284. Minutes available on the web site and on the flash card. Minutes approval will be postponed until Wednesday plenary, as recommended by Vic Hayes chair. This will give the body time to review the final draft.
- 14 Voting membership count:** There were 26 members in the room, 50% of the voting membership is needed for a quorum. At present 802.11 does NOT have a quorum.
- 15 Reports:**
- 15.1 Report of the sponsor reconfirmation ballot
- 15.2 Report of Mondays Ex-Com meeting
- 15.3 Report of the See VICS NOTES on REVCOM status and CANADA status.
- 16 Review of Contributions:** The list of document submissions were reviewed by Vic Hayes.
- 16.1 98/300 through 98/307
- 16.2 also included are documents from ETSI-BRAN
- 16.3 Bluetooth liaison
- 16.4 Submission by Greg Ennis, Impact of Bluetooth on IEEE802.11.
- 17 Unfinished business**
- 17.1 TGa
- 17.2 TGb
- 17.3 Study group WPAN

17.4 Comments to industry Canada

### 18 New Business

- 18.1 5Ghz band characteristics
- 18.2 UK plans to licence the 2.45Ghz band
- 18.3 RF power for RFID in European 2.45Ghz band
- 18.4 Liason with ETSI-BRAN
- 18.5 Teleconference with ETSI excom - IEEE Exec
- 18.6 Liaison with MMAC

### Adoption of Agenda

**MOTION #1: to approve the agenda as modified in document 11-98/245-r1, Moved by Anil Sawalka, Seconded by Carl Andren.**

**No discussion on the motion.**

**Motion on the floor to vote.**

**Motion passes: 23/0/0**

The Plenary *continued* with the modified agenda, next agenda item was Unfinished Business.

### 19 Unfinished Business

- 19.1 TGa report given by Naftali Chayat, the task group plans to review the ETSI-BRAN letter and continue working on the draft text. Other issues include review of MMAC liasion. Comments: IBM sent a letter listing a 5GHz proposal to Naftali Chayat. Naftali sent a response however Vic Hayes plans review the *motion to reconsider*. New proposals need to 75% approval for reconsideration.
- 19.2 TGb report given by John Fakatselis; plans to review a few technical papers, review schedule and continue work on the draft text.
- 19.3 Study group WPAN update Dick Jai: Continue with work on the MAC issues and draft text for PAR.
- 20 New Business**
- 20.1 The 5Ghz band characteristics: Just a point of information by Vic Hayes. See document 98/313
- 20.2 RF power for RFID in Europe 2.45GHz band: Vic Hayes gave an update on the licensing issues. Vic is requesting support against the licensing, possible of rising monopolies, and the opposing threat to the unlicense world-wide band. Some discussion on this item. Don Johnson, Jim Baker and Al Petrick will draft a template for the 802.11 members to forward to the UK regulatory body.
- 20.3 RF power for RFID in Europe in 2.45GHz. Need volunteers to support this issue.
- 20.4 Liason with ETSI-BRAN. Naftali Chayat identified Jan Boer as the Liason between 802.11 and ETSI-BRAN.
- 20.5 Cooperation between ETSI-BRAN and other standards bodies. Update given by Vic Hayes.
- 20.6 Liason with MMAC. Update given by Marsahiro.
- 21 Adjourn for subgroups.**

22 The plenary continued with the next agenda item.

### 23 Adjourn for Subgroups

**24 Meeting adjourned for the day by Vic Hayes at 11:00AM.**

25 This was a verbal vote. Breakout into Task groups TGa and TGb as illustrated in the graphic outline.

**Meeting Minutes**  
**Full Working Group Meeting 802.11**  
**Wednesday, September 16,1998**  
**Westford, MA**

- 26 Meeting called to order by the chair: Vic Hays at 13:05 Secretary, George Fishel present and ready to take the notes.
- 27 Introduction of members present: 20 members present. Additional members entered later for total of 38.
- 28 Agenda Update: Under new business items added:
  - 28.1 "Impact Of Bluetooth"
  - 28.2 "Multi-Rate is Broken"

**MOTION #2: to approve agenda as modified by: Al Petric/ Second: Aniel Sawalka**

**No discussion on the motion.**

**Motion on the floor to vote.**

**Motion carries 20-0-0**

- 29 **Distribution of document**, LAN and flash card.
- 30 **Report on the REVCOM meeting conducted Monday**
  - 30.1 802.11 was not approved REVCOM because of missing Appendix C (State Machine).
  - 30.2 Vic is working to add the missing items and send a 10 day ballot as per request Geoff Thompson.
  - 30.3 Vic placed on agenda for later in this meeting.
- 31 Document from WiLAN
- 32 Old Business
  - 32.1 Study Group Report WPAN
    - 32.1.1 Review the results of the call for applications
    - 32.1.2 Bluetooth special Interest Group
    - 32.1.3 Home RF Working Group Pitch
    - 32.1.4 Discussion of the 802.11 MAC Layer
    - 32.1.5 Further the work of the SG and Plan for Albuquerque
  - 32.2 Report by Naftali Chiatt or TGa
    - 32.2.1 Talked about the activity to harmonise with BRAN
  - 32.3 Report on TGb no report at this time.
  - 32.4 Report on TGrev by Bob O'Hara
    - 32.4.1 An objection to the 10 day ballot from RevCom by Bob O'Hara
    - 32.4.2 Bob feels this is a delaying strategy by members of RevCom.

**Motion #3: To direct the state machine and IEEE editor to complete the editing of the 802.11 rev. as soon as possible so that a completely integrated version of 802.11 can be made available to EXCom in order to be approved at the next RevCom meeting. Bob O'Hara/Steuart Kerry**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 27-2-3**

- 32.1 Report on regulation by Don Johnson
  - 32.1.1 Report on activity in Europe and a request to write letters to the British Radio Bureau
- 32.2 Report on TGb by John Fakatselis

**Motion #4: To accept paper 98-302 as an option to the 802.11b 2.4Ghz high rate PHY draft without any of the mandatory elements described to either the transmit or receive side or any other areas that will impact the proposals in paper 98-314 with the exception of introducing an additional SFD to the short preamble proposal of paper 98-314 to recognise this optional mode. Motion by: John Fakatselis/Kieth Amundsen,**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 35-0-3**

**33** New Business

33.1 ITU-R Issues

33.1.1 Report by George Fishel on ITU-R activity on RLAN activity and a call to help writing a paper to be presented to secure bandwidth at 5.2GHz.

33.1.2 Report by Al Petrick on the planning for the January 11<sup>th</sup> interim meeting in Orlando, Florida

33.1.3 Impact of Bluetooth on 802.11 LANs.

33.1.3.1 The presenter came to the conclusion that a Bluetooth device would have a major impact on 802.11 devices and could not operate in the same space.

33.1.4 Multi-rate Mechanism is Broken! By Anil Sanwalka

33.1.4.1 Anil listed problems but did not propose solutions.

**34** Meeting concluded at 16:27

IEEE 802.11

**Friday, 18 September 1998**

**Westford Full Working Group Meeting**

**Closing Plenary**

**35** Meeting called to order by the chair: Vic Hays at 13:05 Secretary, George Fishel present and ready to take the notes. 16 members present.

**36** Approval of agenda

**Motion #5: to approve the amended agenda by John Fakatselis/ Kazuhiro Okanoue**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 14-0-0**

**37** Report on the activities of TGa by John Fakatselis.

**Motion #6: to submit document 98-314.2 To the plenary with the appropriate editorial changes as instructed by TGb as the draft. by John Fakatselis/ Stuart Kerry**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 16-0-0**

**Motion #7: to submit the draft standard for TGb to WG 10 day letter ballot. By Greg Ennis/Anil Sanwalka,.**

**Discussion followed on the motion.** TGb discussed this motion and it failed in the TGb meeting. John Fakatselis asked that this be put in the meeting notes.

**Motion on the floor to vote.**

**Motion carries 13-1-2**

38 TGA Report by Naftali Chayat.

38.1 Channel spacing changed the 18MHz from 15 MHz. This will be more in line with BRAN and others.

**Motion #8: That the parameters presented in 98-329 be incorporated in the draft and be passed to ETSI BRAN for consideration. Naftali Chayat/Masahiro Morikura**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 14-0-2**

38.2 A small addition to the letter to Industry Canada and was forwarded to ExCom for action

**Motion #9: to approve motions numbered 4 (replacing time windowing specs with spectral mask and constellation accuracy), 7 ( to approve modulation accuracy text),8 (modulation specification changes), 9 (unbind frequency and clock accuracy), 10 (change to pre-amble accepting partially document 98/308) Naftali Chayat/Hitoshi Takanashi**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 12-0-3**

38.3 Information will be sent around on the reflector on the IBM proposal modulation method.

**Motion #10: that 802.11 issues a liaison letter to ETSI BRAN and offering the TGA as a candidate for their draft standard with the purpose of expediting the development of a common physical layer. Naftali Chayat/Masahiro Morikura**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 16-0-0**

39 Report from the WPAM Study Group by Bob O'Hara for Bob Heile.

40 Question on IP from Wi-LAN and their offer for IP did not conform to IEEE regulations. Vic Hayse will check on this matter.

41 Objectives for the November meeting.

41.1 Interim meeting in Japan. Presentation on cost of having meeting in Japan. A straw ballot was taken to see how many people would like to go to Japan on the expensive option 5 and for the cheap option 13

41.2 Naftali also offered Israel as a meeting location for next year

42 New business

42.1 Letter to ARIB on Japan regulation at 2.4 GHz. Vic presented a draft letter and requested a motion.

**Motion #11: to send the liaison statement to ARIB with the draft of IEEE 802.11b. John Fakatselis/Kazuhiro Okanoue**

**Discussion followed on the motion.**

**Motion on the floor to vote.**

**Motion carries 15-0-0**

43 **Next meeting** will be with IEEE 802 plenary November 9 to 13, 1998 at the Hyatt Regency Albuquerque, 330 Tijeras NW Albuquerque, NM 87102 Reservations: (800) 233-1234

44 Meeting adjourned.





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**Tentative Future meeting schedule 1998**

- Jan 11-15 - Lake Buena Vista, FL, Interim (Harris)
- March 8-12 - Hyatt Regency, Town Lake, Austin, TX, Plenary
- May TBD - Japan?, Interim (NTT, Clarion)
- July 5-9 - Queen Elizabeth, Montreal, PQ
- Sept TBD -California, Interim (Alantro)
- November 8-12 - Hyatt Regency Kauai, Koloa, HI

**Tentative Future meeting schedule 1999**

- January TBD - Israel?, Interim, (Breezecom)