

## Tentative Minutes of the IEEE P802.11

**Full Working Group  
Interim Meeting  
Lynnwood, WA**

**19 to 23 January 1998**

**Monday, 19 January 1998**

**1.0 Opening Meeting** called to order by Vic Hayes at 08:30, Agenda of 44th session of 802.11 is in doc. :IEEE P802.11 11-97/158. Al Petrick acting as secretary for George Fishel <sup>1)</sup> is present and ready to take the notes.

### Objectives for this meeting, all groups

Review the LB result on the 802.11 (maintenance) PAR  
Review the LB result on the 802.11c (bridge) PAR  
Work on detailed proposals for TGa and TGb  
Full detailed text required on accepted proposals  
Refinement of the evaluation criteria

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

### 1.2 Voting rights:

1.2.1 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.

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

1.2.2.1 participate in at least 2 out of 4 consecutive plenary meetings. Voting rights start at third meeting

1.2.2.2 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

1.2.3 Voting rights can be maintained:

1.2.3.1 by participation in 2 plenary meetings within 4 consecutive plenary meetings

1.2.3.2 one interim may be substituted for a plenary

1.2.4 Voting rights may be lost:

1.2.4.1 after failing to pay the conference fee

- after missing two out of three consecutive letter ballots

1.2.5 Current state of member status:

1.2.5.1 Voting members

1.2.5.2 Aspiring voting members

1.2.5.3 Nearly voting members

### 1.3 Attendance list, Register

**1.4 Administration:** The attendance list was circulated, Richard Paine 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.

1.4.1 important for administration of voting rights that the attendance book is used properly.

1.4.2 sign per meeting (morning, afternoon, evening). Do not sign ahead.

1.4.3 place initials. Do not cross or underline.

1.4.4- circle the letter corresponding to the meeting you attend when signing (F=full 802.11, P=PHY, M=MAC group).

**1.5** Check e-mail addresses in the book:

1.5.1 some addresses have been struck, or have a \$-sign added to the right - those received complaints from the reflector

1.5.2 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

**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.

Conference fee to be paid through registration office.

Copying and collection of files is managed by Stuart Kerry assists in the pigeonhole stuffing. Stuart is also in charge of document numbers.

Coffee breaks at 10 AM and 3 PM. Noon to 1:00 PM lunch

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

**1.5 IEEE Patent Policy** Vic Hayes 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.

### 1.6 Other announcements

- Viewgraph projectors will be evaluated
- Offer is made to hold the May interim meeting in the Netherlands, nobody had objections to the need to travel abroad.
- The minutes from the last meeting for TGa and TGb have spelling errors to corrected by the respective chairs.
- General information available on diskette from
  - 1 diskette with relevant documents mailed
- Every two years the officers must be reconfirmed
  - Vic Hayes is available to be voted chairman for one more time
- Straw poll conducted to ensure there are sufficient voting members for a quorum. 25 voting members are required and 25 were present.
- Current voting membership:
  - 53 -3 (dropped after the last letter ballot) =50 voting. One was added back because his fax was lost.
  - 23 nearly
  - 52 aspirant

## 2. Approval of the minutes of previous meetings

**2.1 Minutes of the Montreal meeting** The chair commented that the Minutes of the Montreal meeting, 11-97/138, need to be changed in the following way:

- The nearly voting members in the attendance list need to be made members,  
The two TG chairs need to be added to the footer on the front page  
The names of the members in the document need to be corrected.

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*Motion 1: To approve the minutes as amended,*

moved by Bob O'Hara,  
second by Harry Worstel,

Result: 23-0-3

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**motion 1 passes**

**2.2 Matters arising from the minutes:** there were none.

## 3. Reports

- 3.1 the Executive Committee ExCom** meeting report made by Vic Hayes. The two PARs, 802.11 (maintenance) and 802.11c were approved. There were no other items important to 802.11 business.
- 3.2 the Standards Board meeting in December** All three PARs, 802.11b, 802.11c and 802.11 (maintenance) were approved with some minor changes in titles. The PARs, as approved, are published in docs: 98/4, /5, /6 and /7.
- 3.3 the Letter Ballots** All motions of the latest letter ballot were approved. Document 98/13r1 is a report on the letter ballot.

**4. Review of Contributions** Stuart Kerry gave a report of the status.

#### 5. Adoption of Agenda

Vic Hayes reviewed the agenda and proposed additions to the published agenda. Additions are:

- 6.0 Unfinished business
- 6.1 Liaison to WINForum
- 6.2 RFID
- 6.3 Maintenance
- 6.4 TGa work
- 6.5 TGb work
- 7.0 New business
- 7.1 RFID

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**Motion 2:** *To adopt agenda 11-987/158-r1 as amended,*

moved by Tom Siep  
John Fakatselis seconds,

Result: 23-0-0

**motion 2 passes**

#### 6. Unfinished Business

**6.1 WINForum liaison.** Don Johnson gave an update on WINForum and submitted a letter of liaison for approval. Doc: 98/9.

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**Motion 3:** *To approve submission of doc 98/09 to SRDC as the 802.11 position, with a copy to ExCom,*

moved by Don Johnson  
Richard Paine seconds:

Result: 20-0-5

**Motion 3 passes**

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#### 7. New Business

New business discussions led by Vic H.

**7.1 RFID** Vic Hayes presented a document (98/31) on proposed changes to the use of the 2.4 GHz spectrum. The proposal is to permit FH RFID devices to transmit higher power than 802.11 devices in Europe.

No further discussion or new business. This meeting is adjourned until Wednesday January 21, 1998. TGa and TGb meetings occur during this time.

**8. Meeting adjourned for the day by Vic Hayes at 10:30.**

Wednesday 21, January 1998  
13:00

**9. Plenary session opened** by Vic Hayes at 13:00 with introductions. There were 56 people in attendance. Secretary: Kent Rollins for this session.

**9.1 Roll Call** The attendees mentioned their names and affiliation.

**9.2 Updated document list** is on the flash card. Included the document template for submissions.

**9.3 Agenda update** Reviewed the updated agenda:

- 10 Old Business**
- 10.1 802.11 maintenance**
- 10.2 802.11c**
- 10.3 Electronic distribution at meetings**
- 10.4 Working document Formats**
- 10.5 Draft Standard Format**
- 10.6 Report from TGa**
- 10.7 Report from TGb**
- 11 New Business**
- 13 Adjourn for subgroups**

No comments on the agenda

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*Motion 4:*                      *Motion to adopt agenda*

Moved by Jan Boer,  
seconded by Ken Clements.

Result: 24-0-0

**Motion 4 approved**

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#### **9.4 Announcements**

**9.4.1 Discussed the hits on the SPA system.**

##### **Webpage**

**Jan98 5265**  
**Dec97 7599**  
**Nov97 7960**  
**Oct97 8400**  
**Sep97 7874**  
**Aug97 6560**

##### **FTP site (active-files)**

**Jan98 263**  
**Dec97 535**  
**Nov97 402**  
**Oct97 369**  
**Sep97 2**  
**Aug97 197**

**9.4.2 Project 802.11b project was approved and has been publicly announced.**

#### **P802.11b Project Approved**

The IEEE Standards Board approved standards project P802.11b at the December 1997 Standards Board Meeting. This project is on the extension of IEEE Std 802.11-1997 to higher speeds (e.g. 8 or 10 Mbit/s) in the 2.4 GHz band. The current standard works in the same band with 1 and 2 Mbit/s PHYs. In view of the importance of getting the extension approved, the Working Group has set an aggressive schedule.

The Working Group has a number of proposals in hand and it is the plan for the working group to move from proposal to drafting phase quickly. The group will address this issue at their next meeting, 19-23 January 1998.

Please see the agenda.

For general information about the Working Group visit their Web page or contact John Fakatselis, Task Force Chair, or Vic Hayes, 802.11 Chair.

**9.4.3 Extension for the ISO standard delayed to 2 April.** Per ITTF circular dated 1998-01-08, the closing date for voting on ISO/IEC DIS 8802-11 has been extended to 2 April 1998.

Checking possibility to delay until March meeting. else need to send comments from this meeting

**9.4.4 web and ftp sites** New address: <http://grouper.ieee.org/groups/802/11>.

**9.4.5 Tutorial at next meeting** At the Montreal meeting, Richard Paine and George Fishel proposed to the chair to arrange for a tutorial at March meeting regarding "Wearables" or "Personal Area Networks".

Through the Standards Board and the ExCom we received a proposal for a PAR for same, but it was questioned whether it belonged to 802.11 or even to 802. A tutorial was proposed.

Tonight Bob Heile and Ian Gifford will come for an informal meeting to prepare for that tutorial.

Note: Eventually Ian Gifford and Bob Heile arrived on Thursday AM, Informal meetings were held and TGb spend some time in the afternoon on subject matter.

If you want to participate, let chair know.

**9.4.6 Projector questionnaire** needs final review.

**9.4.7 Status of proposals on web** Chair request to have a matrix of the various TGa and TGb proposals with proposer name, main characteristics and status for posting on the 802.11 homepage.

One or two pager requested from proposers with the important characteristics so they can be linked from matrix.

Have the result before Friday noon.

**9.4.8 Boeing Tour** Boeing tour scheduled for Thursday and Friday. 30 attendees requested Thursday. Sign up sheet available at the next break. Scheduled for 9:15 to 12:30.

No announcements from the floor.

## 10. Old Business

**10.1 802.11 maintenance report.** Bob O'Hara not available. Henri Moelard presented results.

Dean K. asked if adding more countries is within the scope of the PAR.

Ron Brockman identified MIB changes. Asked for a list of the technical changes for Friday.

Motions to approve are moved to the Friday agenda.

**10.2 802.11c report.** Ron Brockman reports: Processed all of the comments. Text is not available. Moved to Friday's agenda.

**10.3 Electronic distribution at meetings** There was a discussion of electronic distribution of IEEE 802.11 documents. 80% requested electronic distribution. Methods considered were diskettes, memory cards or WLAN. Netwave (Darwin E.) offered to bring FH and DS access points and 5 PCMCIA cards. Someone will need to provide a server.

In was noted that not all of the attendees can use the memory card. However the majority of attendees have been able to use it. The economic justification for the memory card was presented:

Distribution Medium	Interium Meetings		Plenary Meetings	
	Paper Only	Paper and Disk File 20% Require Paper	Paper Only	Paper and Disk File 20% Require Paper
Number of Attendees	70	70	110	110
Number of submissions	56	56	127	127
Mean number of pages per submission	9	9	9	9
Number of copies	70	14	110	22
Kinkos cost per sheet	<u>\$0.08</u>	<u>\$0.08</u>		
Cost using Kinkos	\$2,822.40	\$564.48		
Net savings		<u>\$2,257.92</u>		
IEEE cost per sheet			<u>\$0.05</u>	<u>\$0.05</u>
Cost using IEEE			\$5,657.85	\$1,131.57
Net savings				<u>\$4,526.28</u>
Cost of ATA Flash memory card 40Mbyte	\$500.00			

Dave Bagby: Will the fees be reduced do to cost savings? No, it is mostly savings to the attendees.

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**Motion 5:** *Move to limit paper distribution to people that have no PC nor Mac whilst attending the meeting, currently estimated to 20 % of total.*

Moved by Stuart Kerry  
Dean Kawaguchi seconded.

No discussion. All attendees to vote:  
result: 45-0-1 (3 not voting).

**Motion 5 passes**

Discussion to select distribution method.

Straw poll: Diskettes only 0  
Diskettes and memory card 49  
WLAN 9

John C. Can we have attachment to 10baseT? Yes. Harry W. Trial for the next meeting? Technical support can be provided by Netwave. Options for combinations of distribution media were discussed:

Straw poll: memory, disks, and WLAN: 13  
memory and WLAN.25

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**Motion 6:** *to select flash card and a trial 802.11 WLAN for the electronic distribution of documentation during March meeting, without diskette with 20 % paper.*

Moved by Stuart Kerry.  
Seconded by John F.

Result: 25-0-1.

**Motion 6 passed**

Questions were raised about installation procedures for the WLAN. Naftali: Can there be incentives for keeping file sizes small? Tabled until next item on document format.

**10.4 Working document formats** The next discussion was to decide the format for working documents:

A straw poll was conducted about the versions of MS Office that the attendees. Straw Poll results were:  
Office 97 with SR1 patch. (Patch corrects transfers to Office 95). 14  
Office 95: 27  
Planning to change to Office 97: 10

Plan to go Office 97 for 802.11? 1

John C. Switched to Office 97. Works well. Dean K.: There is no Mac version of Office 97 available today. There is no Power point converter for use with MACs. Stuart K.: Indicated that conversion programs from 95 to 97 are available. Darrel: What about using just Word 97? Because PowerPoint and Excel are also used. Jeff A.: Attendees from large companies cannot decide on software used since this is controlled by the corporate MIS department. Dave B. Suggested that this be an offline decision with the officers. It was decided that the final decision will be provided at Friday's WG.

There was also discussion of the Acrobat version; 3 or 3.02? It was decided to defer further discussion until Friday

**10.5 Draft Standard Format** The format to be used for the draft standard was discussed. IEEE now uses FrameMaker for Mac. There is a tedious conversion process to/from Word.

Some discussion on using FrameMaker. Dave Bagby: It is difficult to use. Duane Hurne: Also said it is hard to use. Naftali: Recommend that we continue to use Word and PowerPoint. Stuart K.; Recommended against FrameMaker. Should be resolved with IEEE secretary. John F. Against FrameMaker. This will also be discussed on Friday. Dave B: Requested that we use long file names. Vic Hayes: Not sure how to come up with filenames to avoid duplicates. Dave B. Offered to help with an approach.

Some attendees indicated that MS Mail Remote has problems with long file names. Some users can't use long file names. A recommendation will be made Friday.

**10.6 TGa report** Naftali: Minutes from last meeting were approved minutes. There are 6 proposals. 5 have provided updates and one will be done tomorrow morning. Assessed relative criteria. Sensitivity not a major concern. Simple 100-150 ns multipath should be supported. Radio requirements: baseband complexity, power consumption, interference sensitivity and bandwidth are important.

**10.7 TGb report** John F. No motions to forward to plenary. Technical presentations: 3 new proposals, 4 of 7 provided additional submissions. 3 were withdrawn. Schedule problem for one others satisfied with other proposals.

Meeting held to discuss process methodology. Continue to discuss. It was agreed that the selection will move from March to May. There was concern that the meeting in the Netherlands in May should be moved to the US. Follow-up meeting tonight with a paper presented Friday.

**11. New Business** There was no new business.

RFID issue. Documents available and comments sent to CEPT. Request for a volunteer to make to comments to CEPT. None. Vic Hayes will try to follow up.

**12. Adjournment for Subgroups at 14:50, TGb this afternoon. A meeting on determining the selection process will be held tonight.**

## Meeting Minutes for Friday, Jan 22, 1998 for Plenary

**14. Opening of the meeting**

**14.1 Announcements**



**14.1.1 Results of the questionnaire** was for the Toshiba TLP-511U with camera with 173 preference level and Sanyo PLC 5600 N with 116.

**14.1.2 Format of the submissions** is Office 95, Acrobat reader 3.02.

**14.1.3 The Chair rules that it is mandatory that submissions in Word or Excel are based on the template** (subportr.dot and sublands.dot) and are saved in Word 95 or Excel 95. The chair further rules that it is mandatory that submitted presentations in PowerPoint are based on the example presentation, have the headers and footers adjusted on the slides, the handout master and the notes master AND are saved as V4.0. Without compliance the subject matter can not be presented or distributed.

**14.1.4 File naming** will be long file names with the document number format as used today plus the letter for the group the document is addressed to. Then the first 10 words of the title are added or a string according to a recipe to be provided by Dave Bagby. An example is as: [80437A TGa minutes.DOC]. The A is so users can sort by group.

**14.1.5 Recognition** for the help setting the meeting up! Esta Crepps and Roy Sebring of Intermec for hosting the meeting and Richard Paine for the tour at Boeing.

**14.1.6** Dave Bagby reported a request from Microsoft for 802.11 compliant products to get into the Beta program for NT 5.0 . This will have them place the \*.inf file into the CD ROM that ships. See the E-mail on the reflector.

**14.2 Document list update** Now at 98/61 Summary report for task group B

**14.3 Agenda adjustments**

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*Motion 7: to approve the agenda as modified.*

Moved by Naftali Chayat  
Stuart Kerry seconds.

Result: 19/0/0

**Motion 7 Passes**

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## 15. Reports from subgroups

**15.1 Report from TGa** by Naftali Chayat. The task group received 6 proposals and none were withdrawn. Had lively discussion of the performance metrics. Most were most interested in robust performance in multipath in low to medium ranges.

Prepared a document which is the performance matrix to be filled in for each proposal to make apples to apples comparison. Added a phase noise criterion and formula.

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*Motion 8: to allow minor changes to existing TGa proposals before performance data submissions.*

Moved by Naftali Chayat,  
Stuart Kerry seconds.

**Discussion:** Jan Boer: what if two companies combine their proposals? Naftali: that would be OK

Result: 15/0/2

**Motion 8 passes**

**Motion 9:** *to approve the document 98/57 as the template for performance comparison submissions.*

Moved by Naftali Chayat,  
John Fakatselis seconds.

Result: 17/0/2

**Motion 9 passes**

Naftali showed a document to be placed on the reflector to show the status of the group at the end of this meeting. Document is 98/60. Word smithed by audience. Includes a matrix of the features of the 6 proposals. Tabled to allow time to distribute the document so it can be voted on.

**15.2 Report from TGb** 98/61 by John Fakatselis: Reviewed a total of 17 submissions which had two new proposals and 4 previously submitted. The group worked on the schedule and criterion matrix.

**Motion 10:** *to approve 89/54 as the schedule and modulation selection process for the 2.4 GHz higher rate PHY.*

Moved by John Fakatselis,  
Jan Boer seconds.

Result: 18/0/1

**Motion 10 passes**

Straw poll indicated that the Netherlands is still a candidate for the May meeting  
Showed the summary of each of the proposals as submitted by each of the presenters.

**Motion 11:** *to adopt document 98/61 as the report for TGb's meetings.*

Moved by John Fakatselis,  
Roy Sebring seconds.

Result: 17/0/1

**Motion 11 passes**

**15.3 RFID report** Don Johnson

**Motion 12:** *to submit the comments on RFID as proposed in doc 98/59 to CEPT/FM project team SE24.*

Moved by Stuart Kerry,  
Second by Darwin Engwer.

Result: 19/0/2

**Motion 12 passes**

**15.4 TGc Report** Bob O'Hara: Developing a supplement for 802.1b. Resolved 22 letter ballot comments. All changes are available. No significant new issues.

Motion 13: to submit 802.11c/D2 to WG recirculation ballot.

Moved by Bob O'Hara,  
Victoria Poncini seconds

Result: 18/0/1

**Motion 13 passes**

**15.5 Report from Maintenance group** by Bob O'Hara: Received 63 letter ballot comments and resolved all. All changes are available.

Addition of new regulatory domains. Remove PHY constants from the MIB and defined a new PHY service primitive to provide the identical information to the MAC. Addition of several new attributes to the MIB.

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**Motion 14:** *to submit 802.11revD2 to WG recirculation ballot after the editor has made all the changes as instructed by the disposition of comments column and after review and revision of the MIB syntax by Rich Ozer.*

Moved by Bob O'Hara,  
Darwin Engwer seconds.

Result: 17/0/2

**Motion 14 passes**

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**Motion 15:** *to advise the US TAG for JTC1/SC6 and JTC1 to vote disapprove on the ballot on DIS8802-11 and to submit document 802.11revD2as completed and reviewed, as the comment accompanying the disapprove vote of the US Body; the vote to be changed to approve if the changes are adopted.*

Moved by Bob O'Hara,  
Darwin Engwer seconds.

Result: 17/0/4

**Motion 15 passes**

**15.1 Report of TGa** continued Review of the matrix of features contained in document 98/60 by Naftali.

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**Motion 16:** *to adopt document 98/60 as the summary report of TGa's meetings.*

Moved by Naftali Chayat,  
Bob O'Hara seconding.

Result: 13/0/2

**Motion 16 passes**

## 16. New Business

**16.1 Output documents** All were covered by motions

**16.2 Next meeting** Naftali and John Fakatselis will bring the proposals and schedule directly to Vic

**16.3 Other Interim meeting required**

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**Motion 17:** *to have an interim 5 day meeting in Utrecht in the Netherlands May 4-8 or 11-15 depending on related events.*

Moved by Jan Boer,  
second by John Fakatselis.

Discussion: Mr. Mori invited the group to have the meeting in Japan. Straw poll showed slight favor for Utrecht over Japan. Mr. Mori would be willing to organize the September meeting in Japan

**Result: 9/3/3**

**Motion 17 passes**

**Motion to adjourn**

**Moved by Stuart Kerry, second by Harry Worstel. Passed by voice vote (unam).**

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