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

**Full Working Group Plenary Meeting** Irvine, CA

# 9 to 13 March 1998

# Monday, 9 March 1998

1.0 Opening Meeting called to order by Vic Hayes at 14:30, Agenda of 45rd session of 802.11 is in doc.:IEEE P802.11 11-98/66r1. Al Petrick acting, secretary for George Fishel <sup>1),</sup> is present and ready to take the notes.

# Objectives for this meeting, all groups

- 1.1 Review and presentation of Technical Submissions
- 1.2 Review or elect officers for 802.11
- 1.3 Review results of ballots on 802.11rev/D2 and 802.11c/D2
- 1.4 Submit 802.11rev and 802.11c to Sponsor ballot
- 1.5 Start selection process as defined in document 98/54
- 1.6 Consider PAR process for Wearable computer communication

 $^{1)T}$  The officers of the Working Group are:

Mr. VICTOR HAYES Mr. GEORGE FISHEL Secretary IEEE P802.11 Chairman IEEE P802.11 Lucent Technologies AMP Inc. Phone: +31 30 609 7528 Phone: +1 717 592 6161 Fax: +31 30 609 7498 Fax: +1 717 592 6179 E-Mail: v.hayes@ieee.org E-Mail: grfishel@amp.com

Mr. AL PETRICK Mr. STUART KERRY Vice-Chairman IEEE P802.11 Vice-Chairman IEEE802.11 Bufferfly Communications, Inc. Harris Semiconductor Phone: +1 408 496 6868 Phone: +1 407 729-4944 Fax: +1 408 496 0909 Fax: +1 407 724-7886 E-Mail: stuartk@butterfly.com E-Mail: apetrick@harris.com

Mr. DEAN KAWAGUCHI Mr. DAVE BAGBY Chair IEEE P802.11-MAC group Chair IEEE P802.11-PHY group Advanced Micro Devices Symbol Technologies Inc. Phone: +1 408 987 2423 Phone: +1 408 369 2629 Fax: +1 408 987 2800 Fax: +1 408 369 2740 E-Mail: david.bagby@amd.com E-Mail: deank@psd.symbol.com

Mr. BOB O'HARA

Editor IEEE P802.11 Informed Technologies Inc. Phone: +1212 645 4317 Fax: +1 212 645 6719

E-Mail: bob\_ohara@informed-technologies.com

Mr. JOHN FAKATELIS Chair IEEE802.11-TGb Harris Semiconductor Phone: +1 407 729 4733 Fax: +1 407 724 7886 E-Mail: Jfakat01s@harris.com

Mr. NAFTALI CHAYAT Chair IEEE802.11-TGa BreezeCom, Inc.

Phone: +972 3 645 6262 Fax: +72 3 645 6290

E-Mail: naftalic@breezecom.co.il

1.1 Roll Call: People in the room were invited to introduce themselves. There were 56 people in the room.

## 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.
- 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
  - 1.2.2.3 All members have voting rights at task group meetings
- 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
- Currently 5 voters lost their voting rights, (**Please see Vic Hayes for reinstatement of voting privileges**)
- 1.2.5 Current state of member status:
  - 1.2.5.1 Voting members (57)
  - 1.2.5.2 Aspiring voting members (32)
  - 1.2.5.3 Nearly voting members (45)

## 1.3 Attendance List, Registration

- **1.3.1 Administration:** The attendance list was circulated, Chris Zegelin 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.
- 1.3.1.1 Important for administration of voting rights that the attendance book is used properly.
  - 1.3.1.2 Sign per meeting (morning, afternoon, evening). Do not sign ahead.
  - 1.3.1.3 Place initials. Do not cross or underline. You must attend the session after signing.
- 1.3.1.4 Circle the letter corresponding to the meeting you attend when signing (F=full 802.11, P=PHY, M=MAC group).
- **1.3.2 Registration:** You pay full plenary costs if you attend more than ½ hour of any meetings for the week.

### 1.3.3 Check E-mail addresses in the book:

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

- 1.3.3.2 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.
- **1.4 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.
  - 1.4.1 Conference fee to be paid through IEEE802 registration office at the hotel.
  - 1.4.2 Copying and collection of files is managed by Stuart Kerry. Al Petrick assists in pigeonhole stuffing. Stuart is also in charge of document numbers. Before a submission is presented, a document number must be assigned by Stuart and a file copy on diskette in Office 95 submitted using the 802.11 templates for record and distribution. Each submitter must provide twenty-five (25) paper copies for pigeon hole distribution.
  - 1.4.3 Coffee breaks at 10 AM and 3 PM. Noon to 1:00 PM lunch, printing is available in the hotel 802.11 office.
    - 1.4.4 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. Approximately twenty 20% of the attendees can apply for receiving paper copies.
    - 1.4.5 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.
- **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

- 1.6.1 General information is available on the file server.
- 1.6.2 Volunteers needed for the mailing: The 3 volunteers are: Harry Worstell, Naftali Chayat, Ian Gifford.
- 1.6.3 Distribution of the standard will be available on Wednesday: currently only voting members.
- 1.6.4 Availability of projectors for 802.11 (3-projectors are available for the meeting sessions).
- 1.6.5 Tutorial on editing of the standard. It will be held Tuesday from 8:30PM to 9:30PM.
- 1.6.6 On site registration will be USD300 and USD275 for pre-registration.
- 1.6.7 High rate of laptop theft from meeting rooms, doesn't appear to be a problem in the hotel rooms.

## 2. Approval of the minutes of previous meetings

2.1 Minutes of the Lynnwood, Washington meeting approved 11-98/45. No comments on the minutes.

# Motion 1: To approve the minutes, John Fakatselis moves to approve minutes, Seconded by Stuart Kerry, motion passes 39-0-0.

2.2 There were NO matters rising from the minutes.

## 3. Reports

- **3.1** Letter ballot passed, update given by Vic Hayes.
- **3.2** The ExCom meeting update.
  - Secret ballots in 802.11 was expressed, legal ramifications will be studied by an IEEE legal staff liason. The ExCom agreed for 802.11 to continue with secret ballot until notified otherwise.
  - The ExCom reviewed Wearables Networking tutorial and agreed for 802.11 to make PAR recommendations.
- **4. Review of Contributions:** The list of document submissions were reviewed from 98/109 to 98/118.

#### 5. Adoption of Agenda

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

- 6.0 Unfinished business
- 6.1 TGa
- 6.2 TGb
- 6.3 802.11c
- 6.4 802.11rev
- 7.0 New business
- 7.1 Reconfirmation/election of 802.11 officers
- 7.2 Wearable computer communications
- 7.3 PAR for guidelines for 802.11 devices approval requirement.
- **5.1** No proposal for new agenda items

# Motion 2: To approve adoption of agenda, Kent Rollins moves to approve, Seconded by Harry Worstell, motion passes 39-0-0.

#### 6. Unfinished Business

- TGa update given by Chair Naftali Chayt.
- TGa NEC-BreezeCom agreed to present a PHY joint-proposal.
- TGa Micrilor agreed to redrawn their 5.0GHz PHY proposal.
- TGb agreed to an agenda for the week
- TGb started review of technical proposals
- TGb has seven proposals for review for the week
- TGb Chair John Fakatselis requested assistance from the Chair for secret balloting proceedures.
- TG rev update given by Bob O'Hara (only editorial issues at this point)

## 7. New business

- 7.1 Reconfirmation /election of 802.11 officers
- Motion 3: To nominate Bob O'Hara as chair of 802.11 TG rev, moved by John Fakatselis,
   Seconded by Naftali Chayat. Having no further nominations, Bob was elected by acclamation.
- Motion 4: To nominate Victoria Poncini as chair of 802.11 TGc, moved by Roy Sebring, Seconded by Stuart Kerry. Having no further nominations, Bob was elected by acclamation.
- Motion 5: To nominate John Fakatselis as chair of 802.11 TBb, moved by Harry Worstell, Seconded by Dean Kawaguchi. Having no further nominations, Bob was elected by acclamation.
- Motion 6: To nominate Naftali Chayat as chair of 802.11 TBa, moved by Carl Andren, Seconded by John Fakatselis. Having no further nominations, Bob was elected by acclamation.
- Motion 7: To noiminate Dean Kawaguchi as 802.11 PHY chair, moved by Carl Andren, Seconded by John Fakatselis. Having no further nominations, Bob was elected by acclamation.
- Motion 8: To nominate Dave Bagby as 802.11 MAC chair, moved by Stuart Kerry, Seconded by Al Petrick. Having no further nominations, Bob was elected by acclamation.
- Motion 9: To nominate George Fishel as 802.11 Secretary, moved by Cherry Tom, Seconded by Dean Kawaguchi. Having no further nominations, Bob was elected by acclamation.

- Motion 10: To nominate Al Petrick as 802.11 Co-Vice-Chair, moved by Stuart Kerry, Seconded by John Fakatselis. Having no further nominations, Bob was elected by acclamation.
- Motion 11: To nominate Stuart Kerry as 802.11 Vice-Chair, moved by DuaneHurne, Seconded by Al Petrick. Having no further nominations, Bob was elected by acclamation.

Vic Hayes asked Stuart to take the chair, Stuart taking the chair.

• Motion 12: To nominate Vic Hayes a 802.11 Chairman, moved by John Fakatselis, Seconded by Jan Boer. Having no further nominations, Bob was elected by acclamation.

Stuart returned the chair to Vic.

These officers will be presented to ExCom and posted on the IEEE802 home page: homepage http://grouper.ieee.org/groups/802/11

**7.2 Wearables networks:** Bob Heile presented an brief overview of Wearable computer communications, and their position relative to Personal Area Networking.

Motion 13: To establish an ad-hoc group to look at the requirements of Personal Area Networking, and , if warranted, prepare a recommendation and motion for the 802.11 Plenary on Wednesday, March 11, 1998 to form a PAN Study Group with the charter of drafting a PAR for presentation at the next Plenary of 802, moved by Bob Heile, Seconded by Stuart Kerry, motion passes 34-1-6.

- 7.3 PAR for guidelines for 802.11 devices approval requirement:
- **8. Meeting adjourned for the day by Vic Hayes at 4:30PM.** Breakout into Task groups Tba and TBb as illustrated in graphic outline.

# Wednesday 11, March 1998 Plenary, 1:00PM

- **9. Opening:** Plenary session opened by Vic Hayes at 1:00 with introductions. There were 78 people in attendance. Al Petrick is the acting secretary for this session and ready to take notes.
  - 9.1 Roll Call:
  - 9.2 Documentation list update: Documents 98/140, 98/141, were reserved for RadioLAN addressed by Stuart K.
  - 9.3 Agenda update: TGb chair requested that the group needed additional time to complete the proposal review. TGb planned to meet until 6:30PM. Tga was removed from the Wednesday evenings agenda.

Motion 14: to move the agenda as modified, moved by Wim Diestraten, Seconded by Harry Worstel. No further discussion. Motion passes 36-0-3.

9.4 Announcements

9.4.1 Calendar year 2000 hotel selection

Selection for July 9-14, 2000 802 plenary meeting place

- 1) Sheraton West Palm Beach West Palm Beach Florida, \$75/night
- 2) Double Tree Hotel, Seattle Airport Seattle, WA,\$140/night
- 3) Hyatt Regency Vancouver Vancouver, BC Canada, \$149/165/night
- 4) Hyatt Regency La Jolla, LaJolla, CA, \$149/night
- 5) The Portland Hilton, Portland, OR, \$187/night
- 6) Portland Marriott Downtown, Portland, OR, \$169/night
- 7) Grand Hyatt New York, NY, \$175/night
- 8) Seattle Westin Hotel, Seattle, WA \$189/night
- 9) Sheraton Seattle Hotel & Towers, Seattle WA, \$190/night
- 10) Hyatt Regency Hilton Head Resort Hilton Head, SC, \$195/night

Selection for November 5-10, 2000 hotel plenary meeting place

- 11) Hyatt Regency Vancouver Vancouver BC CA, \$125/night
- 12) Sheraton West Palm beach, West Palm beach FL, \$85/night
- 13) Radisson Hotel & Conference Ctr, Baton Rouge, LA \$92/night
- 14) Baton Rouge Hilton-Baton Rouge, LA, \$95/night
- 15) Hyatt Regency Miami, Miami FL \$145/night
- 16) Hyatt Regency Tampa, Tampa Florida, \$145/night
- 17) Hyatt Regency Bellevue, Bellevue, WA, \$165/night
- 18) Hyatt Regency New Orleans, New Orleans, LA, \$178/night

A tally sheet list of a straw poll was generated for submission to the ExCom plenary. Jim Carlo 802 chairman proposed \$225/night for European meetings. A straw poll was taken to go to Europe for plenary, Straw indicated 60-12 go/nogo.

- 9.4.2 Projectors: Jim Carlo, 802 chairman gave an update on XGA Projector Ballot, reference document 802.0/25 February 1998. Also covered was the policy for future plenary registration fees, \$275 for pre-registration and \$300 for on-site. Also covered was a strategy to save costs in for registration
- 9.4.3 Documentation distribution evaluation: Darwin Engwer, will be making an evaluation of the WLAN server network. Stuart Kerry noted that some of the document files were receive by the submitters as corrupt. It was encouraged that other OEMs bring APs to add to the server. Darwin indicated that there were 3 ports available for APs.

#### 10. Old Business

10.1 Report from TGc 802.11c summary report given by Bob OHara referring to document 802.11-98/124.

Motion 15: to forward, 802.11c/d4 to sponsor ballot, moved by Bob O'Hara, Seconded by Keith Amundsen. Discussion: Bob O'Hara confirmed no technical issues.

No further discussion. Motion passes; 40-0-1

- 10.2 Report from 802.11rev.: Bob O'Hara gave a report reference to 802.11-98/125. Bob would like to close the existing NO vote sometime this week. The new document will be 802.11revD3 with all changes accepted. Bob wants to resolve the NO vote before bringing a motion for letter ballot to plenary.
- 10.3 Ad-hoc WPANs: Ian Gifford and Robert Heile, presented an update report as covered in document 802.11-98-135. April 8<sup>th</sup> in Cambridge Mass will be the first ad-hoc meeting. The study group is an open forum to all who are interested.

Motion 16: to adopt and form a study group for WPANs, moved by Robert Heile, Seconded by Stuart Kerry. Discusion: Clarification on minimum data rate for 802.11 and purpose of PAR. Some concerns how the HRFWG plays with this motion.

No further discussion Votes processed

Motion 16 passes 35-0-10.

#### 11. New Business

11.1 Handling of new proposals: Open discussion to close the acceptance of new proposals updated by John Fakatselis.

Motion 17: to close the acceptance of new proposals. If 802.11-TGb receives a new request, the requester will be asked provide the documentation specified in the document 97/157-r1 or its update. The task group will assign 45 minutes for presentation and the making of a technical motion. Moved by John Fakatselis, Seconded by Stuart Kerry.

Moved to amend by deletion of the first sentence. moved by Naftali Chayat, Seconded by William Roberts.

Discussion: some disagreement with this motion.

Question called: to amend the motion moved by Dave Bagby, Seconded by Stuart Kerry.

Doc.: IEEE P802.11-98/121

Motion to call the question passes 31-3-10.

Motion to amend fails 4/22/18

Motion 18: to amend by striking the second part, everything after the first sentence, of the main motion, moved by Dave Bagby, Seconded by Jan Boer.

No discussion

Votes processed

Motion to amend passes 27-2-14

Dean K asked the of the chair to clarify which task group does this apply to.

Bob Ohara said the PAR applies to both TGA and TGb.

Question called: moved by Dave Bagby, no Second, question abandon.

Motion 19: to amend the original motion to include TGb moved by Naftali Chayat, Seconded by Dean Kawaguchi.

No discussion

motion 19 to amend passes by unanimous consent

Motion 17 now reads: To close acceptance of new proposals to TGb.

Motion 17 Passes: 36-1-9

11.2 Other new business: Keith Amundsen gave an update on the new venue for Boston in Mass. Raytheon has tentative approve to host a meeting in September. Costs are \$159 for the meeting, weekly billing of \$150/person/wk for food and breaks. Lunches are \$20 per day.

Straw polls were made for alternate meeting sites San Francisco, Boston, was in favor.

End of new business

13. Adjourn for Subgroups: Visit schedule for TGa, and TGb meetings.

# Thursday 12, March 1998 Plenary, 15:00PM

- **14. Opening:** Plenary session opened by Vic Hayes at 15:00 with introductions. There were 78 people in attendance. Al Petrick is the acting secretary for this session and ready to take notes.
- 14.1 Announcements: The chair wanted volunteers, to take the positions of the chairs for TGa and TGb, as a temporary position during the final selection proposal process. Jim Carlo expressed his guidance as other 802. Groups ran final selections just like 802.11. It was his recommendation to consider alternate chairs. General discussion on the chairs; both John Fakatselis and Naftali Chayat have been doing a great job, handling the task groups.
  - 14.2 Document list update: presented by Stuart Kerry documents 146, 146r1 and 147 PAN wireless press release draft were the lastest updates.
  - 14.3 Adenda Adjustments: add reports from TGa, TGb

No further comments on the agenda, the agenda was adopted with additions.

### 15 Reports from subgroups

15.1 TGa update: was given by Naftali Chayat TGa chair. TGa failed achieving the objective of selecting the 5GHz proposal. Regulatory issues and insufficient data was presented in the group. The amount of data was inconclusive for the group. The 802.11 chair suggested guidance for getting new data from the proposers. Naftala Chayat requested 5Ghz proposers to come with a new version with data on April 12. The 802.11 Chair suggested that a sub-group of (3) people be formed to generate a set of metrics to assist in the selection process. The sub-group will review the criteria metrics and make a new version for April 1. The sub-group will work informally and come with a new matrix on April 29, just before the opening of the next meeting.

15.2 TGb report, given by John Fakatselis TGb chair. The bulk of the meetings revolved around new general papers and new proposals. Two down selection secret ballots were conducted, governed by document 98/54.

Two motions were present by JohnFakatselis.

Motion 19a: To accept the results of the groups secret ballot as announced by group TGb. This part of the selection process was step 2 in document 98/54; moved by John Fatatselis, Seconded by Dave Bagby.

No discussion on this motion

Votes processed

Motion 19a passes 38-0-1

Motion 20: To accept the results of the groups secret ballot as announced by the TGb. This is part of the selection process was step 7 in document 98/54; moved by John Fakatselis, Seconded by Dean Kawaguchi. This was a technical motion

No discussion on the motion.

Votes processed.

motion 20 passes: 40-0-2

15.3 TGc Update by Bob O'Hara: 802.11c/D4 problems as described in document 802.11-98/125. The group decided to make editoral changes. A new document was generated 802.11c/D5.

Motion 21: Having received minor editorial comments from 802.1 on 802.11c/D4 to conduct a 10-day default re-circulation ballot to accept D5 and forward it to the 802 LMSC for sponsor ballot; moved by Bob O'Hara, Seconded by Peter Ecclesine

No discussion.

**Votes processed** 

Motion 21 passes 45-0-1

Open discussion on the NO voter and his comments. It was noted the NO voter was NOT present for Irvine meetings.

No further discussion.

Straw poll.

How many people agree with the no voter that we cannot make the changes we did.

How many voters disagree with the no voter.

4-23-14 majority disagree with the no voter.

Assuming his vote turns into yes vote.

Motion 22: to accept 802.11rev/D4 and forward to 802 executive committee for an LMSC sponser ballot, moved by Bob O'Hara, Seconded by Darwin Engwer

**Discussion:** 

This was a procedural motion

Votes processed

motion 22 passes 33-1-4

15.4 WPAN update: Given by Ian Gifford referenced to document 98/147r1/ The groups press release (IEEE launches wearable computer wireless PAN study group.)

# Motion 23: to approve the IEEE WPAN press release as presented, moved by Ian Gifford, Seconded by Stuart Kerry as presented.

Discussion: Change data rate from less than and equal to 1Mbps. Jim Carlo 802 chair expressed that the IEEE Computer society will re-write the press release. There is no need to dwell on the wording of the submission. John Fakatselis, suggested that a clarification of the study group be added to the press release. The chair suggested that John Fakatselis get together with Ian to edit the submission.

NO further discussion

It was noted by Stuart Kerry that Ian is not a voter. A non voter cannot make a motion.

Bob O'Hara moves on this motion, Seconded by Stuart Kerry.

No discussion votes processed

Motion 23 passes: 31-0-4

### 16. Unfinished Business

- 16.1 802.11c/D5 to sponsor via default WF re-circulation
- 16.2 Next meeting at Lucent reference document 98/70. Objective for next meeting selection of technology TGa and TGb.

# Motion 24: to cancel evening meetings and to conduct parallel sessions of TGa and TGb, moved by Naftali Chayat, Seconded by Tomoki

Discussion: Some are against a parallel meetings because companies cannot afford sending 2x the people. There are mixed emotions on serial and parallel sessions. The group runs the risk of chaos between meetings especially when voting is going on.

Motion 25: to amend by removing "to cancel the evening meetings", moved by Jim McDonald, Seconded by Chandos Rypinski.

No discussion

motion passes: 26-9-5

The new motion 24 now reads: to conduct parallel session of TGa and TGb

Amend the motion: Amend to add: expect on the last and first day of the meetings moved by Chandos Rypinski, NO second.

Therefore no motion to amend.

Request to call the question: by John, Fakatselis, No second

After further discussion: **Motion 24 fails: 5-33-3** 

Motion 26: That the July meeting includes evening meetings and no parallels TGa and TGb meetings moved by Peter Ecclesine, Seconded by Naftali Chayat.

No Discussion

motion passes by unanimous consent.

Motion 27: amend "to have at the July meeting a Sunday 4P to 10PM and Monday AM intern meeting. Moved by Keith Amundsen, Seconded by Peter Ecclesine

No discussion

One objection raised. This is a procedural motion

votes processed

# motion 27 passes 15-12-9

Next Meeting: May 4-8 1998 Utrecht, Netherlands, Lucent to host next meeting. Raytheon to host meeting in September Waltham Mass, the Westin Hotel \$159/night.

17. New Business; NO new business

### 18. Closure

Chair extends his appreciation to those for setting up the WLAN server network. The chair encouraged the group to bring WLAN equipment to the May meeting.

Straw poll: 44 people plan to go to Utrecht, Netherlands.

Darwin gave an a electronic update, special thanks to Stuart Kerry and Bob O'Hara, for helping setup the network. The electronic document sharing was well received with minimal problems.

# Adjourn the meeting.

# **Tentative meeting schedule**

| Date  | Month | Year | Place                      | Туре                            | Location                          | Host                   |
|-------|-------|------|----------------------------|---------------------------------|-----------------------------------|------------------------|
| 8-9   | April | 1998 | Cambridge, MA              | Interim,<br>Study<br>Group only | Boston Marriott cambridge         | GTE<br>Internetworking |
| 4-8   | May   | 1998 | Utrech, the<br>Netherlands | Interim WG<br>+SG               | Holidy Inn Utrecht City<br>Center | Lucent<br>Technologies |
| 20-21 | May   | 1998 | TBD                        | Interim<br>Study<br>Group only  | TBD                               | TBD                    |
| 5-10  | Jul   | 1998 | La Jolla, CA               | Plenary                         | Hyatt Regency                     |                        |
| 14-18 | Sept  | 1998 | Waltham, MA, tent          | Interim WG                      |                                   | Rhaytheon              |
| 8-13  | Nov   | 1998 | Albuquerque, NM            | Plenary                         | Hyatt Regency                     |                        |
| 7-12  | March | 199  | Austin, TX                 | Plenary                         | Hyatt Regency, Town<br>Lake       |                        |
| 4-9   | July  | 1999 | Montreal, PQ               | Plenary                         | Queen Elisabeth Hotel             |                        |
| 7-12  | Nov   | 1999 | Koloa, HI                  | Plenary                         | Hyatt Regency Kauai               |                        |

# Attendance list

| Full name att.        | % memstat    | us company                                  | phone                     | e_mail                            |
|-----------------------|--------------|---|---------------------------|-----------------------------------|
| Mr. Jeff Abramowitz   | 95 voter     | 3Com Corporation                            | +1 408 764 5974           | jeff_abramowitz@3com.com          |
| Mr. Matthew Alspauch  | 54 nonvoter  | Spectralink                                 | +1 303 440 5330           | matta@spectralink.com             |
| Mr. Keith B. Amundsen | 100 voter    | Raytheon Company                            | +1 508 490 1759           | keith_b_amundsen@raytheon.com     |
| Mr. Carl F. Andren    | 100 voter    | HARRIS Corporation                          | +1 407 724 7535           | candren@harris.com                |
| Mr. Kazuhiro Aoyagi   | 82 voter     | Showa Electric Wire & Cable Co. Ltd.        | +81 427 73 7211           | k860822@snt1.swcc.co.jp           |
| Mr. David Bagby       | 85 voter     | Advanced Micro Devices                      | +1 408 749 5425           | david.bagby@amd.com               |
| Mr. James R. Baker    | 100 aspirant | Netwave Technologies Inc.                   | +1 510 737 1646           | jbaker@netwave-wireless.com       |
| Mr. Phil Belanger     | 95 voter     | Aironet Wireless Communications Inc.        | +1 330 664 7953           | pbela@aironet.com                 |
| Mr. John Biddick      | 100 voter    | Intermec Corporation                        | +1 206 348 2600<br>X6647  | jbiddick@intermec.com             |
| Mr. Simon Black       | 90 voter     | Intalk Ltd.                                 | +44 1223 847400           | simonblack@intalk.com             |
| Mr. Jan Boer          | 100 voter    | Lucent Technologies<br>Nederland            | +31 30 609 7483           | janboer@lucent.com                |
| Dr. Ron Borgstahl     | 30 nonvoter  |   | +1 602 441 0825           | p26836@email.mot.com              |
| Mr. Richard C. Braley | 30 nonvoter  | Federal Express Corporation                 | +1 901 375 6535           | rcbraley@fedex.com                |
| Mr. Wesley Brodsky    | 100 voter    | Raytheon Company                            | +1 508 490 1616           | wesley_g_brodsky@res.raytheon.com |
| Mr. Duane Buddrius    | 30 nonvoter  | Solectek Corporation                        | +1 619 450 1220 X<br>3011 | dbuddriu@solectek.com             |
| Dr. John H. Cafarella | 100 voter    | Micrilor Inc.                               | +1 781 246 0103           | johncafarella@worldnet.att.net    |
| Mr. Dave Carlson      | 15 nonvoter  |   | +1 908 264 2581           | dcarlson@netlabs.net              |
| Mr. Naftali Chayat    | 100 voter    | BreezeCom                                   | +972 3 645 6262           | naftalic@breezecom.co.il          |
| Mr. Wen-Chiang Chen   | 100 nonvoter | Industrial Technology<br>Research institute | +886 3 5917157            | 810739@ccloal.ccl.itri.org.tw     |
| Mr. Greg Copeland     | 15 nonvoter  |   | +1 408 654 6745           | copeland@idt.com                  |
| Mr. Randy Dence       | 30 nonvoter  | _   | +1 310 965 1718           | rdence@xmission.com               |
| Mr. Wim Diepstraten   | 97 voter     | Lucent Technologies Nederland               | +31 30 609 7482           | wdiepstraten@lucent.com           |
| Mr. Richard Ditch     | 30 nonvoter  |   |                           |                                   |
| Mr. Darrol Draper     | 100 voter    | Golden Bridge Technology                    | +1 303 452 2185           | dfdraper@ix.netcom.com            |
| Dr. Joseph L. Dvorak  | 30 nonvoter  | Motorola                                    | +1 305 72 4818            | ejd023@email.mot.com              |
| Mr. Peter Ecclesine   | 100 voter    | Cisco Systems Inc.                          | +1 408 527 0815           | petere@aimnet.com                 |
| Mr. Richard Eckard    | 100 nonvoter | GTE Laboratories Inc.                       | +1 781 466 2780           | reckard@gte.com                   |
| Mr. Gabriel A. Edde   | 30 nonvoter  |   | +1 317 587 3668           | eddeg@indy.tce.com                |
| Mr. Darwin Engwer     | 100 voter    | Electronics<br>Netwave Technologies Inc.    | +1 510 737 1600           | dengwer@netwave-wireless.com      |

| Full name att.         | % memstatus company                               | phone             | e_mail                            |
|------------------------|---|-------------------|-----------------------------------|
| Mr. Greg Ennis         | 90 nonvoter                                       | +1 408 358 5544   | gennis@mindspring.com             |
| Mr. John Fakatselis    | 100 voter HARRIS Corporation                      | +1 407 729 4733   | jfakat01@harris.com               |
| Mr. Jeff Fischer       | 100 voter Micrilor Inc.                           | +1 781 246 0130   | jefffisch@aol.com                 |
| Mr. John Fisher        | 97 voter Proxim Inc.                              | +1 650 526 3703   | johnf@proxim.com                  |
| Mr. Ian Gifford        | 94 nonvoter M/A-COM Inc.                          | +1 978 442 4650   | marketing@macom.com               |
| Mr. Motohiro Gochi     | 100 voter Clarion Corporation of                  | +781 245 7001     | mgochi@msn.com                    |
| Mr. Tim Godfrey        | America<br>100 voter Choice Microsystems          | +1 913 897 0908   | tgodfrey@choicemicro.com          |
| Dr. Ken C. Greenwood   | 25 nonvoter Sanders Lockheed Martin               | +1 603 645 5439   | ken.c.greenwood@lmco.com          |
| Mr. Peter van Grinsven | Telecomms 15 nonvoter Philips Research            |                   |                                   |
| Mr. Jan Haagh          | 100 voter Lucent Technologies                     | +31 3060 97464    | haagh@lucent.com                  |
| Mr. Karl Hannestad     | Nederland<br>100 voter Netwave Technologies Inc.  | +1 510 737 1600   | khannest@netwave-wireless.com     |
| Mr. Kei Hara           | 97 nonvoter Silicon Dynamics                      | +1 408 245 6600   | hara@sidynamics.com               |
| Mr. Mohammed Hasan     | 100 nonvoter Nortel                               | +1 972 689 1732   | hasanm@nortel.com                 |
| Mr. Victor Hayes       | 100 voter Lucent Technologies<br>Nederland        | +31 30 609 7528   | vichayes@lucent.com               |
| Dr. Chris Heegard      | 100 aspirant Alantro Communications               | +1 707 521 3062   | heegard@ee.cornell.edu            |
| Mr. Robert Heile       | 75 voter BBN GTE Interworking                     | +1 617 873 4835   | bheile@bbn.com                    |
| Mr. Maarten Hoeben     | Technologies 93 voter No Wires Needed B.V.        | +31 30 228 0910   | maarten.hoeben@nwn.nl             |
| DiplIng Mario Huemer   | 100 nonvoter Johannes Kepler<br>Universitaet Linz | +43 732 2468 9714 | huemer@mechatronik.uni-linz.ac.at |
| Mr. Duane Hurne        | 100 voter Golden Bridge Technology                | +1 972 517 2115   | dhurne@stargate-com.com           |
| Mr. Thomas J. Hutton   | 45 nonvoter Symbol Technologies Inc.              | +1 408 369 2627   | tomh@psd.symbol.com               |
| Mr. Masayuki Ikeda     | 100 voter Seiko Epson Corp.                       | +81 266 52 3131   | ikeda.masayuki@exc.epson.co.jp    |
| Mr. Hiroyasu Ishikawa  | 100 aspirant Kokusai Denshin Denwa Co.            | +81 492 78 7856   | ishikawa@lab.kdd.co.jp            |
| Mr. Yoshiki Iwasaki    | Ltd (KDD)<br>40 nonvoter JVC                      | +81 468 36 3136   | iwasaki@krhm.jvc-victor.co.jp     |
| Mr. Richard Jai        | 100 voter Symbol Technologies Inc.                | +1 408 558 2861   | rjai@psd.symbol.com               |
| Mr. Donald C. Johnson  | 100 voter NCR                                     | +1 937 445 1452   | donald.c.johnson@daytonoh.ncr.com |
| Mr. Ad Kamerman        | 100 aspirant Lucent Technologies                  | +31 30 609 7479   | kamerman@lucent.com               |
| Mr. Nobuo Karaki       | Nederland<br>100 voter Epson R&D, Inc.            | +1 408 952 6102   | nkaraki@erd.epson.com             |
| Mr. Dean M. Kawaguchi  | 100 voter Symbol Technologies Inc.                | +1 408 369 2629   | deank@psd.symbol.com              |
| Mr. Stuart J. Kerry    | 100 voter Butterfly Communications                | +1 408 496 6868   | stuartk@butterfly.com             |
| Mr. Rex L. Kesser      | Inc. 63 aspirant AMP Inc.                         | +1 717 986 3790   | rlkesser@amp.com                  |
| Mr. Patrick Kinney     | 90 nonvoter Intermec Technologies                 | +1 319 369 3593   | kinneypw@norand.com               |
| Mr. Mikio Kiyono       | Corp. (Norand) 48 nonvoter EXD Technologies Inc.  | +1 408 970 1480   | mikio@exdt.com                    |

| Full name att.          | % memsta     | tus company                             | phone                    | e_mail                             |
|-------------------------|--------------|---|--------------------------|------------------------------------|
| Ms. Hikaru Kudoh        | 89 nonvoter  | NEC Corporation                         | +81 44 856 2255          | hikaru@ccm.cl.nec.co.jp            |
| Mr. Brian Langlais      | 4 nonvoter   | West End Systems                        | +1 613 623 9600          | brian-langlais@qmail.newbridge.com |
| Dr. Richard P. LaRowe   | 45 nonvoter  | BBN GTE Interworking<br>Technologies    | +1 617 873 2193          | rlarowe@bbn.com                    |
| Jr.<br>Mr. Mike Lemieux | 100 nonvoter | DNPG Cabletron Systems Inc.             | +1 978 506 5497          | mike.lemieux@digital.com           |
| Mr. James S. Li         | 100 aspirant | Institute for Information Industry      | +886 2 564 3588<br>X147  | jamesli@iii.org.tw                 |
| Dr. Reza Majidi-Ahy     | 94 aspirant  | RadioLAN                                | +1 408 524 2600          | rahy@radiolan.com                  |
| Mr. Isao Masaki         | 100 voter    | Clarion Corporation of<br>America       | +1 310 965 1718<br>X4718 | isaomasaki@msn.com                 |
| Mr. Jim McDonald        | 94 voter     | Motorola Inc.                           | +1 847 576 3169          | cjm015@email.mot.com               |
| Mr. Michael D. McInnis  | 100 nonvoter | The Boeing Company                      | +1 425 865 2840          | michael.d.mcinnis@boeing.com       |
| Mr. Gene Miller         | 60 voter     | Raytheon Company                        | +1 508 490 1838          | gene_d_miller@res.raytheon.com     |
| Dr. Akira Miura         | 100 voter    | AJM Consulting                          | +1 408 371 4234          | Miura_Akira@email.msn.com          |
| Mr. Henri Moelard       | 100 aspirant | Lucent Technologies<br>Nederland        | +31 30 609 7551          | moelard@lucent.com                 |
| Mr. Masaharu Mori       | 89 voter     | Clarion Co. Ltd.                        | +81 48 443 1111          | masmori@msn.com                    |
| Dr. Masahiro Morikura   | 100 voter    | NTT Wireless Systems Labs.              | +81 468 59 3132          | morikura@mhosun.wslab.ntt.co.jp    |
| Mr. Wayne D. Moyers     | 100 aspirant |   | +1 408 338 7562          | wdm119@concentric.net              |
| Mr. Ken Naganuma        | 100 aspirant | Toko America Inc.                       | +1 847 635 3246          | knaganuma@tokoam.com               |
| Mr. Ravi P. Nalamati    | 100 voter    | DNPG Cabletron Systems Inc.             | +1 978 506 5189          | nalamati@mail.dec.com              |
| Mr. Peter D. Narvaez    | 14 nonvoter  | Philips Semiconductors                  | +1 408 991 3688          | peter.narvaez@svsc.philips.com     |
| Dr. Richard van Nee     | 93 voter     | Lucent Technologies<br>Nederland        | +31 30 609 7412          | vannee@lucent.com                  |
| Mr. Bob O'Hara          | 100 voter    | Informed Technology Inc.                | +1 212 463 7937          | bob@informed-technology.com        |
| Mr. Larry P. Ochs       | 15 nonvoter  | XETRON Corporation                      | +1 513 881 3266          | larryo@xetron.com                  |
| Dr. Tomoki Ohsawa       | 100 voter    | NEC Corporation                         | +81 44 856 2242          | ohsawa@nwk.cl.nec.co.jp            |
| Mr. Kazuhiro Okanoue    | 100 voter    | NEC Corporation                         | +81 44 856 2255          | okanoue@ccm.cl.nec.co.jp           |
| Mr. Roger Pandanda      | 45 aspirant  | MCS Corporaton                          | +1 619 558 9300          | pandanda@mcsc.com                  |
| Mr. Al Petrick          | 100 voter    | HARRIS Corporation                      | +1 407 729 4944          | apetrick@harris.com                |
| Ms. Victoria M. Poncini | 33 voter     | The Boeing Company                      | +1 425 865 5342          | victoria.m.poncini@boeing.com      |
| Mr. Jon Rasmussen       | 30 nonvoter  | Intermec Technologies<br>Corp. (Norand) | +1 319 369 3508          | rasmussj@norand.com                |
| Mr. Gregory S. Rawlins  | 100 aspirant | Signal Technologies Inc.                | +1 407 260 0175          | grawlins@quik.com                  |
| Dr. Stanley A. Reible   | 98 voter     | Micrilor Inc.                           | +1 617 246 0103<br>X105  | reible@compuserve.com              |
| Mr. Frits Riep          | 100 nonvoter | DNPG Cabletron Systems<br>Inc.          | +1 978 506 6962          | frits.riep@digital.com             |
| Mr. William Roberts     | 100 voter    | American Microsystems Inc.              | +1 208 233 4690<br>x6514 | wroberts@poci.amis.com             |
| Mr. Kent G. Rollins     | 100 voter    | HARRIS Corporation                      | +1 407 729 5133          | krollins@harris.com                |

| Full name att. % memstatus company |              |   | phone                   | e_mail                           |
|------------------------------------|--------------|---|-------------------------|----------------------------------|
| Mr. Philippe Rouzet                | 74 nonvoter  | Dassault Electronique                   | +33 01 34 81 45 77      | philippe.rouzet@dassault-elec.fr |
| Dr. Clemens C.W.                   | 100 voter    | Siemens AG                              | +49 89 636 5 33 25      | c.c.ruppel@ieee.org              |
| Ruppel<br>Mr. Chandos Rypinski     | 94 voter     | Ubiquity Communications                 | +1 707 792 5392         | rypinski@microweb.com            |
| Mr. Roy Sebring                    | 100 voter    | Intermec Corporation                    | +1 425 356 1740         | rsebring@intermec.com            |
| Dr. Tie-Jun Shan                   | 83 nonvoter  | Lucent Technologies                     | +1 732 949 1721         | tjs@lucent.com                   |
| Mr. Mike Shiba                     | 85 voter     | Symbol Technologies Inc.                | +1 408 369 2695         | mikes@psd.symbol.com             |
| Dr. Hideyuki Shinonaga             | 100 aspirant | Kokusai Denshin Denwa Co.<br>Ltd (KDD)  | +81 492 78 7850         | shinonaga@lab.kdd.co.jp          |
| Mr. Matthew B.<br>Shoemake         | 100 nonvoter | * *                                     | +1 707 521 3060         | shoemake@alantro.com             |
| Mr. Jim Slater                     | 30 nonvoter  | Nomadic Technologies                    | +1 650 988 7200         | jcslater@robots.com              |
| Mr. Gary Spiess                    | 100 aspirant | Intermec Technologies<br>Corp. (Norand) | +1 319 369 3580         | spiess@norand.com                |
| Mr. Larry Strelow                  | 100 nonvoter | 1 '                                     | +1 316 526 9387         |                                  |
| Mr. Hitoshi Takanashi              | 100 voter    | NTT Wireless Systems Labs.              | +81 468 59 3471         | takanasi@pcs.wslab.ntt.co.jp     |
| Mr. Satoru Toguchi                 | 100 voter    | JVC                                     | +81 462 78 1871         | toguchi@krhm.jvc-victor.co.jp    |
| Ms. Cherry Tom                     | 100 voter    | AT&T Laboratories                       | +1 973 386 4192         | ctom@att.com                     |
| Mr. Mike Trompower                 | 100 voter    | Aironet Wireless Communications Inc.    | +1 330 664 7920         | mtrom@aironet.com                |
| Mr. Kiyoshi Tsujimura              | 82 nonvoter  |   | +81 3 5982 4671         | kiyoshi@kaytec.co.jp             |
| Mr. Bruce Tuch                     | 94 aspirant  | Lucent Technologies<br>Nederland        | +31 3060 97527          | btuch@lucent.com                 |
| Mr. Eric Vallet                    | 34 nonvoter  | Dassault Electronique                   | +33 1 49 11 80 08       | eric.vallet@dassault-elec.fr     |
| Mr. Sarosh Vesuna                  | 60 voter     | Symbol Technologies Inc.                | +1 408 369 2657         | saroshv@psd.symbol.com           |
| Mr. Ikuo Wakayama                  | 100 nonvoter | NEC Corporation                         | +88 3 3798 9616         | wakayama@wsd.ho.nec.co.jp        |
| Mr. Mark Webster                   | 45 aspirant  | Harris                                  | +1 407 724 7537         | mwebster@harris.com              |
| Dr. Nien C. Wei                    | 97 voter     | AT&T Laboratories                       | +1 973 386 2053         | ncw@mailnet.ho.att.com           |
| Mr. Jim Wong                       | 15 nonvoter  | Hewlett-Packard Company                 | +1 408 746 5494         | james_wong@hp.com                |
| Mr. Harry Worstell                 | 100 voter    | AT&T Laboratories                       | +1 973 386 7856         | hrw3@mailnet.ho.att.com          |
| Mr. Lawrence W. Yonge              | 100 nonvoter | Intellon Corporation                    | +1 352 237 7416         | larry.yonge@intellon.com         |
| III<br>Mr. Chris Zegelin           | 100 aspirant | Symbol Technologies Inc.                | X358<br>+1 408 369 2667 | chrisz@psd.symbol.com            |
| Mr. Steven A.<br>Zelubowski        | 78 aspirant  | M/A-COM Inc.                            | +1 978 442 4621         | zelubows@macom.com               |