### IEEE P802.11 Wireless LANs

# **Tentative Minutes of Task Group B**

**Date:** July 6-10, 1998

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IEEE 802.11 - Task Group B Minutes July 6-10, La Jolla, California

### Monday - 6 July 98

John Fakatselis, Chair Stan Reible, Acting Secretary Stuart Kerry, Vic Hayes, and Dave Bagby, Parliamentarians

#### Call to Order

Secretary Appointment: Stan Reible.

# Approval of Agenda

Proposed Agenda for Monday 07/06/98

- Call to order
  - Secretary appointment
- Approval of agenda.
- Approval of May 1998 minutes.
- TGb background
- Procedural
  - Parliamentarian(s) appointment
  - Selective procedural rules overview
- Approval of Candidate proposals list

- Call for papers
  - Proposals
    - Alantro
    - Harris/Lucent
    - Micrilor
  - Other
    - Bob O. (1) 98-263 on MAC rate issues.
- Order/Time of presentations
  - Harris/Lucent 2 hrs.
  - Micrilor 1 hr.
  - Alantro 45 min.
  - Bob O. 10 min

Peter Ecclesine proposed that straw polls be taken at end of presentations on Wednesday

Motion: Moved to accept agenda/Al Petrick/ Jeff Abramowitz;

Motion Passed unanimously 38/0/0.

# **Approval of May 1998 Minutes**

Chair reported that minutes for May 4-8, 1998 interim meetings were approved by all chairs and proposal presenters.

**Motion:** Moved that minutes for May 4-8 meeting be accepted as presented; Kent Rollins moved; Jeff Abramowitz seconded.

Motion Passed 33/0/2.

#### **Procedural Issues**

Group was polled for an indication of new attendees; 4 raised hands.

Group was polled for an indication of those that did not attend May 4-8 meeting in Utrecht; 7 raised hands.

Chair pointed out that task group doesn't make final decision on proposal selection; final decision is made by working group.

Chairman discussed what happens when group falls behind on meeting schedule.

Chairman explained his right to assign parliamentarians.

Chairman assigned Stuart Kerry, Vic Hayes, and David Baggy as parliamentarians.

Chairman reviewed procedural rules for 802.11 meetings.

#### **Short Recess**

Assembly was granted short recess to attend award ceremony at 802 plenary.

#### Additional Procedural

Task group chair reviewed his authority.

Chair reviewed important items from Roberts Rules.

Point of Order Improper Motions Request for parliamentarian's opinion Point of information

Chair requested questions on parliamentary procedure.

### **Call for Papers**

Chair requested proposals/Responses:

Ken Rollins - Harris/Lucent John Cafarella - MICRILOR Chris Heegard - Alantro

With 68 present, chair made a request for motions entertaining acceptance of proposals;

**Motion:** Moved for acceptance of MICRILOR proposal; Carl Andren/Chris Heegard, No discussion:

Motion Passed unanimously 43/0/1

Motion: Moved for acceptance of Lucent/Harris proposal/John Cafarella/Richard van Nee;

**Motion Passed** unanimously 43/0/0.

**Motion:** Moved for acceptance Alantro proposal/Al Petrick/Roy Sebring;

**Motion Passed** unanimously 40/0/5.

Chair entertained request for papers

Alantro 1; Paper No. 267

Harris/Lucent 2; Paper Nos. 246A, 266

MICRILOR 1

Bob O'Hara, 1; Paper No. 263

### **Ordering of Proposals**

It was noted that MICRILOR & Harris/Lucent proposals were on Web page 1 week in advance; Alantro proposal remained unchanged from proposal presented at earlier meeting.

**Proposed Ordering** 

Harris/Lucent; 2 hr. 1st MICRILOR; 1 hr 2nd Alantro; 45 min. 3rd

Bob O'Hara; 10 min.

Chair asked if there was any objection to the order of presenting the proposal/papers; No objection to the order of presenting the papers was voiced.

# **Review of Selection Process for Proposals**

Chair reviewed proposed selection process.

Roll call vote until 1 proposal achieves 75% approval. Proposal with lowest number of votes is eliminated until one remains. There will be None (no proposals found acceptable) on ballot.

# **Meeting Adjourned**

# Tuesday - July 7, 1998 at 2:05 PM

#### Call to Order

# **Approval of Agenda**

### Agenda Proposed For Tuesday 07/07/98

- Outstanding issues from Monday
  - Withdraw of previous proposals.
- Presentations of proposals
  - 2:00 4:00 Harris/Lucent
  - 4:00 5:00 Micrilor
  - 5:00 5:45 Alantro
- Other papers
  - 5:45 6:00 Bob O.
- Straw Poll on proposals
- 6: 20 Adjourn

Chair asked for any objections to proposed agenda; No objection to proposed agenda was voiced.

Chair ruled agenda was approved as presented.

# Withdrawal of Previous Proposals

Chair asked remaining presenter's intentions with regards to other proposals submitted at earlier meeting;

Harris withdrew previous proposal.

Lucent withdrew previous proposal.

MICRILOR withdrew previous proposal.

Raytheon withdrew previous proposal.

# **Presentation of Modified or Merged Proposals**

Chair yielded floor to Mark Webster from Harris

Summary of presenter's comments:

Mark Webster - Reference document 246a

Reasons for new Harris/Lucent proposal

Changes in Harris & Lucent proposal described

Advantages in architecture & performance

Carl Andren - Reference document 266

Implementation
Performance
Comparisons

Chair entertained questions with regards to Harris Proposal.

#### 10 Minute Recess

### **Continuation with Presentation of Proposals**

Chair yielded floor to John Cafarella/MICRILOR.

Summary of presenter's comments:

Changes from May
Advantages of simplicity
Primary 10 Mbit/s operating mode
Power backoff
Three frequency channels

Chair entertained questions from floor concerning MICRILOR's proposal.

### **Special Announcement**

Announcement from Victor Hayes on response to FCC on RF lighting in the 2.4 GHz bands; comments from task group are needed in one hour.

# **Continuation with Presentation of Proposals**

Floor yielded to Chris Heegard/Alantro

Summary - Paper No. 267:

Reviewed elements of proposal.

Described advantages of convolutional coding

Chair entertained questions from floor on Alantro proposal

# **Presentation of Other Papers**

Bob O'Hara - Paper No. 263a

Rate Information and 802.11 MAC.

Chair entertained questions from floor on Bob O'Hara paper.

### **Discussions**

**Motion:** Moved to extend time to 7:00 for adjournment; Peter Ecclesine/Phil Belanger;

Motion Passed unanimously 41/0/5.

Peter Ecclesine explained the reasons his request for straw poll regarding assemblies support for individual proposals.

#### Results of straw poll:

Harris/Lucent 35 - 70%
MICRILOR 11 - 22%
Alantro 2 - 4%
None 2 - 4%
Total Votes 50 - 100%
Total Voters 68

# Adjourned

### Wednesday - July 8; 2:45 PM

### Call to Order at 2:45 PM

#### **Chair's Comments**

What does the outcome of week's vote mean?

Items to be submitted by proposers.

Baseline vs. options and areas that can change in the draft Differentiators of each proposal versus competing proposals.

### **Review of Remaining Agenda Items**

-

### Proposed Agenda For Wed. 07/08/98

- Comparison matrix presentation
- Panel discussion Q&A
- Adjourn

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Motion: Moved to fix the time of adjournment at 6:15 PM/Harry Worstell/Dean Kawaguchi;

Motion Passed 39/2/15.

Motion: Moved to accept the remaining agenda /Dean Kawaguchi/Jim Zyren;

**Motion Passed** 25/21/9

A roll call vote on approval of the proposed agenda was requested by Matthew Shoemake.

Name	Member Status	Yes	No	present
Jeff Abramowitz	Voter	X		
Reza Ahy	Voter		X	
Keith Amundsen	Voter			
Carl Andren	Voter	X		
Kazuhiro Aoyagi	Voter			
Dave Bagby	Voter			
Jim Baker	Voter	X		
Phil Belanger	Voter	X		
John Biddick	Voter			
Simon Black	Voter	X		
Jan Boer	Voter			X
Ronald Brockmann	Voter			
Wesley Brodsky	Voter		X	
John Cafarella	Voter		X	
Naftali Chayat	Voter		X	

Ken Clements	Voter			
Wim Diepstraten	Voter	X		
Darrol Draper	Voter			
Peter Ecclesine	Voter		X	
Darwin Engwer	Voter	X		
Greg Ennis	Voter	X		
Matthew Fischer	Voter			
Jeff Fischer	Voter		X	
George Fishel	Voter			
John Fisher	Voter		X	
Ian Gifford	Voter			
Motohiro Gochi	Voter		X	
Tim Godfrey	Voter		Х	
Jan Haagh	Voter	X		
Karl Hannestad	Voter			X
Mohammed Hasan	Voter			
Vic Hayes	Voter			X
Chris Heegard	Voter		Х	
Bob Heile	Voter			
Maarten Hoeben	Voter			
Duane Hurne	Voter			
Masayuki Ikeda	Voter	X		
Richard Jai	Voter	11		
Don Johnson	Voter	X		
Ad Kamerman	Voter	11		X
Nobuo Karaki	Voter			A
Dean Kawaguchi	Voter	X		
Stuart Kerry	Voter		Х	
Pat Kinney	Voter			
James Li	Voter			X
Iasao Masaki	Voter		X	
Jim McDonald	Voter			
Michael McInnis	Voter		X	
Gene Miller	Voter		X	
Akira Miura	Voter			X
Henri Moelard	Voter	X		
Mas Mori	Voter	11	X	
Mas Morikura	Voter			X
Ravi Nalamati	Voter			
Colin Nayler	Voter			
Richard Nee	Voter	X		
Bob O'Hara	Voter	X		
Tomoki Ohsawa	Voter			
Kazuhiro Okanoue	Voter		X	
Richard Paine	Voter			
Al Petrick	Voter	X		
Bob Pham	Voter			
Victoria Poncini	Voter			
Greg Rawlins	Voter	X		
Stan Reible	Voter	-	X	
Frits Riep	Voter	X		
William Roberts	Voter			
Kent Rollins	Voter	X		
Oren Rosenfeld	Voter			
Michael	Voter			
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### January 1998

Rothenberg				
Clemens Ruppel	Voter			
Chan Rypinski	Voter			
Anil Sanwalka	Voter			X
Roy Sebring	Voter			
T.J. Shan	Voter		X	
Mike Shiba	Voter			
Matthew	Voter		X	
Shoemake				
Tom Siep	Voter			
Don Sloan	Voter	X		
Doug Smith	Voter		X	
Hitoshi Takanashi	Voter	X		
Satoru Toguchi	Voter			
Cherry Tom	Voter	X		
Tom Tsoulogiannis	Voter			X
Bruce Tuch	Voter	X		
Sarosh Vesuna	Voter	X		
Ikuo Wakayama	Voter			X
Mark Webster	Voter	X		
Nien Wei	Voter			
Leo Wilz	Voter	X		
Harry Worstell	Voter	X		
Chris Zegelin	Voter	X		
Steven Zelubowski	Voter			
Tim Zimmerman	Voter	X		
Johnny Zweig	Voter	X		
Jim Zyren	Voter	X		
John Fakatselis	Voter			
Data	Total			
Count of present	11			
Count of no	20			
Count of yes	31			
	62			

Motion Passed 31/20/11

# **Presentation of Comparison Matrix**

**Motion:** Moved to postpone presentation of matrix comparison until we have the correct data for the Harris/Lucent proposal/Stan Reible/Wesley Brodsky.

Motion: Moved to recess 15 minutes/Al Petrick/Dean Kawaguchi.

Chair ruled that motion to recess takes precedence over motion to postpone.

**Motion to Recess Passed 59/1/1** 

#### **Recessed for 15 Minutes**

doc: IEEE P802.11-98/286

### **Presentation of Comparison Matrix**

Presentation of Comparison Matrix by Jim Baker

Alantro provided missing data for their proposal.

### **Presentation of Baseline Proposal and Options**

Oral presentation of baseline proposal concepts & options which can be changed.

Alantro - Chris Heegard. Harris-Lucent - Mark Webster MICRILOR - John Cafarella

#### **Panel Discussion**

Alantro - Chris Heegard MICRILOR - John Cafarella Harris - Mark Webster Lucent - Jan Boer

Proposers summarized the advantages of their particular proposals:

Alantro: Good convolutional coding for robustness

Harris/Lucent: 11 Mcps always, interoperability; good spectral match

MICRILOR: Robustness & Simplicity

Summary of questions from floor

Consideration of alternative codes/Jan Boer

Effect of separate codes on roaming/John Cafarella

Follow on question on roaming-handing over codes between BSAs/John Cafarella

Separation of code properties from other properties/Mark Webster

BSA must scan for very many different codes/frequencies/John Cafarella

Each proposer should review IP in proposal/all

Using codes to solve leakage problem/John Cafarella

What kind of studies have been done to look at advantages using different codes bring to channel capacity problem/John Cafarella

Does selected 8-chip code means user will never change code/Mark Webster

Equalizer specs/can they be changed/Mark Webster.

Couldn't find multiple cover codes for Harris 5.5 Mbit/s mode/Mark Webster.

For interoperability; What is the installed base of 802.11 LANs/Mark Webster.

Would proposers consider changing IP/Mark Webster

#### **Procedural**

**Motion:** Moved to extend adjournment time/Dean Kawaguchi/unknown.

Motion: Moved to adjourn/John Cafarella/unknown.

Chair ruled motion to extend adjournment time out of order (this motion was in conflict with a motion passed during the same session fixing the time for adjournment. A motion to reconsider the initial motion was suggested.)

Chair ruled that both motions deal with adjournment, therefore first motion has floor.

**Motion:** Moved to appeal decision of chair's out-of-order ruling on motion to extend adjournment time.

During ongoing discussions, parlimentarians advised that meeting officially adjourned at 6:15 due to existence of previous motion setting adjournment time.

page 12

### Meeting Adjourned at 6:15

### Thursday - July 9, 1998

#### Call to Order

### **Review of Remaining Agenda**

#### Proposed Agenda For Thur. 07/09/98

- 8:45 9:10 Panel discussion Q&A (continue)
- 9:10 9:30 Closing Arguments
- Selection vote for recommended proposal
  - 9:50 Voting begins
  - Final proposal announcement.
- Adjourn

Motion: Moved to amend agenda/Dave Bagby/Anil Sanwalka

Chris Heegard voiced objection to motion. Naftali Chayat voiced objection to motion.

#### Motion Withdrawn By Mover and Seconder

**Motion:** Moved to adopt corrected times in agenda/Bob O'Hara/Victor Hayes;

Motion Passed 43/1/6.

**Motion:** Moved to adopt agenda/unknown/unknown.

**Motion:** Moved to call motion to adopt agenda/Matthew Shoemake/Vic Hayes

Motion to Call Passed 15/7/-.

Motion to Adopt Agenda Passed 38/9/3.

#### **Panel Discussion Continued With Question/Answer Portion**

Has MICRILOR done new code search as waveform change/John C. Can MAC handle the number codes available/John C./Chris H./Richard N/Mark W. Header is encoded in one of 8 codes-How to prevent responses to/from wrong BSA/John Selected CCK codes appear to be shifts of each other which leads to problems in multipath/Mark Webster & Richard Nee.

Time limit reached for ending panel discussions.

doc: IEEE P802.11-98/286

Closing arguments by proposal presenters.

Alantro - Chris Heegard. Harris/Lucent - Mark Webster MICRILOR - John Cafarella.

#### **Review of Selection Process**

Vote by roll call
Vote options
Alantro
Harris/Lucent
MICRILOR
None
Abstain

Each voter will have only one choice/ballot.

First proposal to achieve 75% vote shall be forward to 802.11 working group as the task group's selection.

**Motion:** Moved to accept selection process/Karl Hannestad/Anil Sanwalka;

Motion Passed 53/2/1.

**Motion:** Moved to vote on one of the following choices to arrive at a final proposal recommendation for presentation to the 802.11 plenary/John/Anil Sanwalka.

Alantro Harris/Lucent MICRILOR None Present

Wesley Brodsky requested and was granted floor to speak on selection process.

**Motion to Approve Selection Process Passed** 54/1/1.

Roll call balloting during the selection process was requested by John Cafarella.

### **Selection of Final Proposal**

#### First Ballot

Balloting started at 10:00 am.

 Alantro
 2
 3.33%

 Harris/Lucent
 42
 70.00%

 MICRILOR
 14
 23.33%

 None
 2
 3.33%

 Present
 5
 8.3%

Total Votes 65 Total Eligible 98

Name	Member.	Alantro	Harris/	Micrilor	None	Present
	Status		Lucent			
Jeff	Voter		X			
Abramowitz						
Reza Ahy	Voter			X		
Keith	Voter					
Amundsen						
Carl Andren	Voter		X			
Kazuhiro	Voter					
Aoyagi						
Dave Bagby	Voter					X
Jim Baker	Voter		X			
Phil	Voter		X			
Belanger						
John	Voter					
Biddick						
Simon Black	Voter		X			
Jan Boer	Voter		X			
Ronald	Voter					
Brockmann						
Wesley	Voter				X	
Brodsky						
John	Voter			X		
Cafarella						
Naftali	Voter			X		
Chayat						
Ken	Voter					
Clements						
Wim	Voter		X			
Diepstraten						
Darrol	Voter					
Draper						
Peter	Voter			X		
Ecclesine						
Darwin	Voter		X			
Engwer	**					
Greg Ennis	Voter		X			
Matthew	Voter					
Fischer						
Jeff Fischer	Voter			X		
George	Voter					
Fishel						
John Fisher	Voter					X
Ian Gifford	Voter		X			
Motohiro	Voter			X		
Gochi						
Tim Godfrey	Voter					X

Jan Haagh	Voter		X			
Karl	Voter		X			
Hannestad	Votei		A			
Mohammed	Voter					
Hasan	Votei					
Vic Hayes	Voter		X			
Chris	Voter	X	71			
Heegard	VOICI	^				
Bob Heile	Voter					
Maarten	Voter					
Hoeben	VOLEI					
Duane	Voter					
Hurne	, 6161					
Masayuki	Voter			X		
Ikeda	Voter			11		
Richard Jai	Voter					
Don Johnson	Voter		X			
Ad	Voter		X			+
Kamerman	VOICE					
Nobuo	Voter					
Karaki	VOICE					
Dean	Voter		X			
Kawaguchi	VOICI		A			
Stuart Kerry	Voter		X			
Pat Kinney	Voter		Λ			
James Li	Voter		X			
Iasao			Λ	X		
Masaki	Voter			Λ		
Jim	Voter					
McDonald	VOICI					
Michael	Voter			X		
McInnis	VOICI			Λ		
Gene Miller	Voter				X	
Akira Miura	Voter			X	Λ	
Henri	Voter		X	Λ		
Moelard	Votei		A			
Mas Mori	Voter			X		
Mas	Voter		X	Λ		
Morikura	VOICI		A			
Ravi	Voter					
Nalamati	Votei					
Colin Nayler	Voter					
Richard Nee	Voter		X			
Bob O'Hara	Voter		X			
Tomoki	Voter		Λ			
Ohsawa	VOICE					
Kazuhiro	Voter			X		
Okanoue	V OLEI			Λ		
Richard	Voter					
Paine	VOICE					
Al Petrick	Voter		X			
Bob Pham	Voter		Α			
Victoria	Voter					
Poncini	V OLEI					
Greg	Voter		X			+
Rawlins	VOICE					
Nawiiiis	<u> </u>		1		l	1

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Stan Reible	Voter			X	
Frits Riep	Voter			X	
William	Voter				
Roberts					
Kent Rollins	Voter		X		
Oren	Voter				
Rosenfeld					
Michael	Voter				
Rothenberg					
Clemens	Voter				
Ruppel					
Chan	Voter				
Rypinski					
Anil	Voter		X		
Sanwalka					
Roy Sebring	Voter		X		
T.J. Shan	Voter		X		
Mike Shiba	Voter		X		
Matthew	Voter	X			
Shoemake	, 5001				
Tom Siep	Voter				
Don Sloan	Voter		X		
Doug Smith	Voter		X		
Hitoshi	Voter		X		
Takanashi	VOICI		A		
Satoru	Voter				
Toguchi	VOICI				
Cherry Tom	Voter		Y		
Mike	Voter		X		
Trompower	VOLEI		Λ		
Tom	Voter		X		
Tsoulogiann	Votei		Λ		
is					
Bruce Tuch	Voter		X		
Sarosh	Voter		Λ		
Vesuna	Votei				
Ikuo	Voter				X
Wakayama	Votei				Λ
Mark	Voter		X		
Webster	voter		Δ		
Nien Wei	Voter				
Leo Wilz	Voter				X
Harry	Voter		X		Λ
Worstell	V OLEI		^		
Chris	Voter		X		
Zegelin	VOLCI		^		
Steven	Voter				
Zelubowski	voter				
Tim	Voter		X		
Zimmerman	voter		^		
	Voter		X		
Johnny Zweig	V OLEI		^		
Zweig	Voter		X		
Jim Zyren			Λ		
John Foltotaolia	Voter				
Fakatselis	<u> </u>				

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Motion: Moved to continue to second round of voting /Wesley Brodsky/John Cafarella;

Motion Passed 58/1/0.

### **Second Ballot**

Harris/Lucent 44 73.33 MICRILOR 14 23.33 None 2 3.33

Present 6 Total Votes 66 Total Eligible 111

Name	Member. Status	Harris/Lucent	Micrilor	None	Present
Jeff	Voter	X			
Abramowitz					
Reza Ahy	Voter		X		
Keith	Voter				X
Amundsen					
Carl Andren	Voter	X			
Kazuhiro	Voter				
Aoyagi					
Dave Bagby	Voter				X
Jim Baker	Voter	X			
Phil Belanger	Voter	X			
John Biddick	Voter				
Simon Black	Voter	X			
Jan Boer	Voter	X			
Ronald	Voter				
Brockmann					
Wesley	Voter			X	
Brodsky					
John Cafarella	Voter		X		
Naftali Chayat	Voter		X		
Ken Clements	Voter				
Wim	Voter	X			
Diepstraten					
Darrol Draper	Voter				
Peter Ecclesine	Voter		X		
Darwin Engwer	Voter	X			
Greg Ennis	Voter	X			
Matthew	Voter				
Fischer					
Jeff Fischer	Voter		X		
George Fishel	Voter				
John Fisher	Voter				X
Ian Gifford	Voter	X			
Motohiro	Voter		X		
Gochi					
Tim Godfrey	Voter				X
Jan Haagh	Voter	X			
Karl Hannestad	Voter	X			
Mohammed	Voter				

Hasan					
Vic Hayes	Voter	X			
Chris Heegard	Voter	X			
Bob Heile	Voter	71			
Maarten	Voter				
Hoeben	Votei				
Duane Hurne	Voter				
Masayuki	Voter		X		
Ikeda	Voter		Λ		
Richard Jai	Voter				
Don Johnson	Voter	X			
Ad Kamerman	Voter	X			
Nobuo Karaki	Voter	A			
Dean	Voter	X			
Kawaguchi	Votei	Λ			
Stuart Kerry	Voter	X			
Pat Kinney	Voter	Λ			
James Li	Voter	X			
Iasao Masaki	Voter	Λ	v		
Jim McDonald	Voter		X	1	
Michael Michael					
McInnis	Voter		X		
Gene Miller	Voter			V	
				X	
Akira Miura	Voter	V	X		
Henri Moelard	Voter	X			
Mas Mori	Voter	V	X		
Mas Morikura	Voter	X			
Ravi Nalamati	Voter				
Colin Nayler	Voter	**			
Richard Nee	Voter	X			
Bob O'Hara	Voter	X			
Tomoki	Voter				
Ohsawa	**				
Kazuhiro	Voter		X		
Okanoue	X 7 .				
Richard Paine	Voter	**			
Al Petrick	Voter	X			
Bob Pham	Voter				
Victoria	Voter				
Poncini					
Greg Rawlins	Voter	X			
Stan Reible	Voter		X		
Frits Riep	Voter		X		
William	Voter				
Roberts					
Kent Rollins	Voter	X			
Oren Rosenfeld	Voter				
Michael	Voter				
Rothenberg	XX .				
Clemens	Voter				
Ruppel	XX .				
Chan Rypinski	Voter	77			
Anil Sanwalka	Voter	X			
Roy Sebring	Voter	X			
T.J. Shan	Voter	X			
Mike Shiba	Voter	X			

# January 1998

	1	1		
Matthew	Voter	X		
Shoemake				
Tom Siep	Voter			
Don Sloan	Voter	X		
Doug Smith	Voter	X		
Hitoshi	Voter	X		
Takanashi				
Satoru Toguchi	Voter			
Cherry Tom	Voter	X		
Mike	Voter	X		
Trompower				
Tom	Voter	X		
Tsoulogiannis				
Bruce Tuch	Voter	X		
Sarosh Vesuna	Voter			
Ikuo	Voter			X
Wakayama				
Mark Webster	Voter	X		
Nien Wei	Voter			
Leo Wilz	Voter			X
Harry Worstell	Voter	X		
Chris Zegelin	Voter	X		
Steven	Voter			
Zelubowski				
Tim	Voter	X		
Zimmerman				
Johnny Zweig	Voter	X		
Jim Zyren	Voter	X		
John Fakatselis	Voter			

Data Total

Count of Harris/Lucent 44 73.33% Count of Micrilor 14 23.33%

Count of None 2 3.33% Count of Present 6

Total 66

No objection was voiced to continue to third round of voting.

### **Third Ballot**

Harris/Lucent 49 77.78 None 14 22.9

Present 4 Total Votes 67 Total Eligible 98

Name	Harris/Lucent	None	Present
Jeff Abramowitz	X		
Reza Ahy		X	
Keith Amundsen		X	
Carl Andren	X		

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Vazubira Aayagi	Т		
Kazuhiro Aoyagi Kamran Aquil	+		
Dave Bagby	+		
Jim Baker	V		X
	X		
Phil Belanger	X		
John Biddick			
Simon Black	X		
Jan Boer	X		
Ronald Brockmann			
Wesley Brodsky		X	
John Cafarella		X	
Dean Chang			
Naftali Chayat		X	
Ken Clements			
Wim Diepstraten	X		
Darrol Draper			
Peter Ecclesine	X		
Darwin Engwer	X		
Greg Ennis	X		
Matthew Fischer			
Jeff Fischer		X	
George Fishel			
David Fisher			
John Fisher			X
Ian Gifford	X		
Motohiro Gochi		X	
Tim Godfrey	X		
Jan Haagh	X		
Karl Hannestad	X		
Mohammed Hasan			
Vic Hayes	X		
Chris Heegard	X		
Bob Heile			
Mas Hirayama			
Maarten Hoeben			
Duane Hurne			
Masayuki Ikeda		X	
Hiroyasu Ishikawa			
Richard Jai			
Don Johnson	X		
Ad Kamerman	X		
Nobuo Karaki			
Dean Kawaguchi	X		
Stuart Kerry	X		
Pat Kinney	A		
Hanspeter Kuepfer			
James Li	X		
Iasao Masaki	/ <b>1</b>	v	
Hideki Matsumoto		X	
Jim McDonald			
Michael McInnis	v		
Gene Miller	X	v	
	+	X	
Akira Miura	V	X	
Henri Moelard	X		
Mas Mori		X	

doc: IEEE P802.11-98/286

Mas Morikura	X		
Tets Morita			
Wayne Moyers			
Ken Naganuma			
Ravi Nalamati			
Colin Nayler			
Richard Nee	X		
Bob O'Hara	X		
Tomoki Ohsawa			
Kazuhiro Okanoue		x	
Richard Paine			
Al Petrick	X		
Bob Pham			
Victoria Poncini			
Greg Rawlins	X		
Stan Reible		X	
Frits Riep	X		
William Roberts			
Kent Rollins	X		
Oren Rosenfeld			
Michael Rothenberg			
Clemens Ruppel			
Chan Rypinski			
Anil Sanwalka	X		
Roy Sebring	X		
T.J. Shan	X		
Mike Shiba	X		
Hideyuki Shinonaga	A		
Matthew Shoemake	X		
Tom Siep	A		
Don Sloan	X		
Doug Smith	X		
David Smith	Λ		
Gary Spiess			
Hitoshi Takanashi	X		
	Λ		
Satoru Toguchi Cherry Tom	X		
	X		
Mike Trompower			
Tom Tsoulogiannis	X		
Bruce Tuch	X		
Sarosh Vesuna	X		
Ikuo Wakayama			X
Mark Webster	X		
Nien Wei			
Leo Wilz	37		X
Harry Worstell	X		
Chris Zegelin	X		
Steven Zelubowski			
Tim Zimmerman	X		
Johnny Zweig	X		
Jim Zyren	X		
John Fakatselis			

Data Total

Count of Harris/Lucent 49 77.78%

January 1998 doc: IEEE P802.11-98/286

Count of None	14	22.22%	
Count of Present	4		
Total	67		

Chair asked if there were any objections to recommending Harris/Lucent proposal to 802.11 Plenary; No objection was voiced.

# Meeting Adjourned at 11:00 am

### **Attendance List**

See minutes of the full working group.

# **Future Meetings**

See minutes of the full working group.