
**IEEE P802.11
Wireless LANs**

Tentative Minutes of the IEEE P802.11 Full Working Group**September 18 – 22, 2000****Radisson Resort & Spa, Scottsdale, AZ****Opening Session: Monday, September 18, 2000****1.1. Introduction**

Meeting called to order by Stuart Kerry at 0800 hrs. Agenda of 63rd session of 802.11 is in doc.: IEEE P802.11-00/256r2.

1.2. Roll Call

89 people in the room introduced themselves

1.3. Objectives for this meeting:

- TGb
- TGd
- TGe
- TGf
- HRB SG
- Regulatory Ad Hoc
- Marketing Ad Hoc
- WG Chairs Ad Hoc
- Other Ad Hoc

1.4. Review of 802.11 Organization**1.5. Review of Agenda**

Change of Friday Morning agenda. Thursday Evening will be TGe, and Friday morning is 802.11 WG at 08:00

1.6. Secretary, Document Officer, Attendance Book Officer

Tim Godfrey, Secretary
Harry Worstell, Document Officer
Al Petrick, Attendance Book Officer

1.7. Voting Rights

Stuart Kerry summarized the regulations regarding voting rights.

Participation in debates, moving and seconding, is only permitted by voting members, in all 802.11 meetings (at all levels of Plenary and Working Group).

- Chairs may permit observers to participate in debate
- In study groups all attendees have voting rights.

To become a voting member and to maintain voting member status:

- Participate in at least 2 out of 4 consecutive plenary meetings. An initial non-voting member obtains voting rights at the third meeting.

**IEEE P802.11
Wireless LANs**

Tentative Minutes of the IEEE P802.11 Full Working Group**September 18 – 22, 2000****Radisson Resort & Spa, Scottsdale, AZ****Opening Session: Monday, September 18, 2000****1.1. Introduction**

Meeting called to order by Stuart Kerry at 0800 hrs. Agenda of 63rd session of 802.11 is in doc.: IEEE P802.11-00/256r2.

1.2. Roll Call

89 people in the room introduced themselves

1.3. Objectives for this meeting:

- TGb
- TGd
- TGe
- TGf
- HRB SG
- Regulatory Ad Hoc
- Marketing Ad Hoc
- WG Chairs Ad Hoc
- Other Ad Hoc

1.4. Review of 802.11 Organization**1.5. Review of Agenda**

Change of Friday Morning agenda. Thursday Evening will be TGe, and Friday morning is 802.11 WG at 08:00

1.6. Secretary, Document Officer, Attendance Book Officer

Tim Godfrey, Secretary

Harry Worstell, Document Officer

Al Petrick, Attendance Book Officer

1.7. Voting Rights

Stuart Kerry summarized the regulations regarding voting rights.

Participation in debates, moving and seconding, is only permitted by voting members, in all 802.11 meetings (at all levels of Plenary and Working Group).

- Chairs may permit observers to participate in debate
- In study groups all attendees have voting rights.

To become a voting member and to maintain voting member status:

- Participate in at least 2 out of 4 consecutive plenary meetings. An initial non-voting member obtains voting rights at the third meeting.

- One interim may be substituted for a plenary
- Participation in at least 75% of each meeting, in the room
- Voting members will get a token to be used at votes

All members have voting rights at task group meetings

Voting rights may be lost:

- After failing to pay the conference fee
- After missing two out of three consecutive letter ballots

Current member status:

- Voting members: 103 at the beginning of this meeting
- Nearly voting members: 31
- Aspiring voting members: 113
- Non voters (over past 8 years) 424
- Quorum Check – 35, not a quorum: 52 needed for Quorum.

1.8. Attendance List; Registration

- Attendance List: The attendance list has to be recorded for voting membership registration. It was circulated with Al Petrick supervising.
- Members should verify their E-mail and addresses.
- Access to private area of web site is granted with 75% participation in a meeting week.

1.9. Logistics

- (a) Coordinator – Face to Face Events
- (b) Breaks: Coffee breaks are listed in the Agenda for 1000 and 1500. There is continental breakfast free for registered attendees. Lunches from 1200-1300 (exactly these times).
- (c) Social evening Wednesday evening.
- (d) Documentation:

1.10. Documents

- Document distribution: Dissemination of documentation is via electronic file distribution controlled by Harry Worstell. Two mediums only will be used. They are 1) 802.11 network and 2) flash memory cards.
- All files must use the IEEE P802.11 templates for Word documents and PowerPoint. Stuart Kerry explained how to properly name and enter information into the documents including the document information, headers and footers. For presentations it is necessary to view header and footer, and slide master and update the date, name and document number.
- Documents must be in MS Office 97 format, not PDF.
- Inter – meeting documents must be sent directly to Harry Worstell, not only the reflector.
- Documents must be available on the network a meeting session before the agenda item is presented.

1.11. IEEE Patent Policy

Stuart Kerry, 802.11 Chair, explained the IEEE Patent Policy as per Clause 5 of the IEEE Standards Board Bylaws. He specifically asked attendees to notify the Working Group if they know about patents or patent applications that are (or may be) required to implement the standards, so the Chair can send out letters to patent holders to request the appropriate IP statements.

1.12. Individual Representation

All attendees are representing themselves as individuals and not companies and/or any special organization.

1.13. Anti-Trust Laws

Discussion of price is disallowed in 802.11 sessions due to the threat of price fixing. Price fixing discussions are governed by Anti-Trust Laws and are illegal.

1.14. Copyrights

If you know of copyrighted or proprietary material that is in the standard as we have drafts now, please let the group know so the Chair has the opportunity to request release.

Standards Publication shall constitute a "work made for hire" as defined by the Copyright Act. IEEE owns the copyright of the standards publication.

1.15. Other Announcements

- 1.15.1. Promotion of Harry Worstell to Vice Chair from Co-Vice Chair.

1.16. Review of Agenda Changes (in doc 256r2)

- 1.16.1. From Naftali Chayat – Proposal for creation of Study Group for 2.4GHz wideband FH PHY in 2.4GHz.

- 1.16.1.1. Postpone Liaison representatives until Wednesday

1.16.2. Motion to approve Agenda Matthew Shoemake
--

- | |
|-----------------------------------|
| 1.16.2.1. Seconded David Skellern |
| 1.16.2.2. No Discussion |
| 1.16.2.3. Vote – passes 42:0:0 |

1.17. Approval of Minutes from La Jolla
--

- | |
|--|
| 1.17.1. Document 00/0185. |
| 1.17.2. Approved by Unanimous Consent. |

1.18. Reports

- 1.18.1. July 13 Excom Meeting
- 1.18.2. Report on TGb-cor
 - 1.18.2.1. Documents are on web site in final form. We need to go through a sponsor ballot round
- 1.18.3. TGd
 - 1.18.3.1. The executive committee asked for count of remaining no-votes. There were 6 no votes remaining. They have been contacted and changed their vote to approve.
 - 1.18.3.2. The 2.0 draft has been forwarded to sponsor ballot with unanimous approval.
- 1.18.4. TGe
 - 1.18.4.1. There will be work to make up lost time. A re-organization of TGe has been proposed and accepted by the chairs. There will be organizational changes in the meetings
- 1.18.5. TGf
 - 1.18.5.1. The milestone is to create the first draft of 802.11F this week.
- 1.18.6. HRB SG
 - 1.18.6.1. Agenda document 280.
 - 1.18.6.2. Letter ballot 23 (reaffirm support PAR for HRBSG) approved 70:0:0. Final approval for Task Group G will take place this Wednesday from the standards board.
 - 1.18.6.3. Series of 4 conference calls took place between meetings. Selection Procedure, Functional Requirements, and Comparison Criteria.
 - 1.18.6.4. Review of Yes with Comments vote.
 - 1.18.6.5. Formal adoption of Selection Procedure, Functional Requirements, and Comparison Criteria documents
 - 1.18.6.6. Review submissions – goal to complete all work required to allow formal presentation of proposals at the November 2000 session.
- 1.18.7. Regulatory Updates
 - 1.18.7.1. Address 99-231 issues
 - 1.18.7.2. Reply to ETSI-BRAN on 802.11a in Europe

- 1.18.7.3. Review Ultra Wideband regulations
- 1.18.8. **Marketing Ad Hoc**
 - 1.18.8.1. Continue working on presentations for Web Site for use in promoting the standard.
 - 1.18.8.2. Working with 802.15
- 1.18.9. **Review and approve agenda for 802.15 joint meeting**
 - 1.18.9.1. Wednesday at 13:00 hours.
 - 1.18.9.2. Discussion of purchase of 802.11 network equipment with surplus funds from Seattle.
 - 1.18.9.3. Reports from all 802.11 and 802.15 task groups.
 - 1.18.9.4. 802.11 There will be a 30 minute plenary following the joint meeting to take care of any needed agenda adjustments or administrative issues
 - 1.18.9.5. Motion to approve the agenda for the 802.11 / 15 Joint Meeting.

1.19. Review of Contributions

- 1.19.1. A large number of New Documents on “Pre Meeting” on the Flash, and will be on the server when available.
- 1.19.2. **Other submissions**
 - 1.19.2.1. Letter from 5GHz Advisory Council – already assigned 276.
 - 1.19.2.2. Evaluating the performance of 802.11 HRB proposals in Multipath – doc 282
 - 1.19.2.3. Spectral mask consideration for HRB – doc 283 HRBSG
 - 1.19.2.4. 802.11 MAC enhancements for European compliance – doc 284
 - 1.19.2.5. Modeling multipath and fading – document 285 HRBSG
 - 1.19.2.6. 802.11 proposal to support efficient multimedia streaming – doc 286 TGe
 - 1.19.2.7.

1.20. Old Business

- 1.20.1. **Coexistence Group between 802.11 and 802.15.**
 - 1.20.1.1. 802.15.2 is the official group.
 - 1.20.1.2. Joint collaboration with 802.11
 - 1.20.1.3. Plan to generate a Recommended Practice Document under 802.15.
 - 1.20.1.4. We will have joint working group ballots in 802.11 and 802.15
 - 1.20.1.5. What about 5Ghz. Call for interest in an 802.11 group to address 802.11 and 802.15 co existence in the 5GHz band.
 - 1.20.1.6. discussion
 - 1.20.1.6.1. What if 802.15.3 doesn't select a 5GHz phy? Isn't this premature
 - 1.20.1.6.2. Larger issue – with 802.11 and 802.15 the opportunity arises to run two 802. standards on the same media. A recommended practice document doesn't strongly enough specify the coexistence. We need a normative standard to insure they will coexist.
 - 1.20.1.6.3. 802.16 has a study group looking at 5GHz unlicensed. This should be done at the Exec Com level.
 - 1.20.1.6.4. Other standards group go to great lengths to prevent duplication of effort. Shouldn't 802 have a similar oversight?
 - 1.20.1.7. This will be brought up at the joint meeting.
- 1.20.2. **Presentation of 5Ghz Unified Proposal**

- 1.20.2.1. Bill McFarland (Atheros)
- 1.20.2.2. Document 00/175
- 1.20.2.3. Atheros is not planning on standardizing this in 802.11 in the short term, but they would like to discuss with anyone interested
- 1.20.3. RF Safety issues in Wireless LANs
 - 1.20.3.1. Donald Bowan, AT&T Labs
 - 1.20.3.2. Document 279

1.21. *New Business*

- 1.21.1. 5GHz global Standardization and Convergence
 - 1.21.1.1. Rich Kennedy (Compaq)
 - 1.21.1.2. The 5GHz wireless LAN industry advisory group addresses the problems at 5GHz.
 - 1.21.1.3. Trying to avoid multiple standards in the same space.
 - 1.21.1.4. Looking for industry consensus to achieve global standardization in the 5GHz band.
 - 1.21.1.5. Request an 802.11 Study Group to address these issues.
 - 1.21.1.6. Motion to extend the meeting time of the opening plenary to 10:15AM.
 - 1.21.1.7. Moved Harry Worstell
 - 1.21.1.8. Seconded Frank Howley
 - 1.21.1.9. Passes by consensus without objection
 - 1.21.1.10. Motion to create a study group under 802.11 for a 5GHz globalization, with coordination with ETSI and MMAC
 - 1.21.1.10.1. Moved Ivan Reede
 - 1.21.1.10.2. Seconded Peter Murray
 - 1.21.1.10.3. Discussion
 - 1.21.1.10.3.1. How could this study group respond in the desired timeframe? The intent is to start the organization moving towards convergence.
 - 1.21.1.10.3.2. The 60 days is to get similar study groups established in the other organizations, not to complete the work.
 - 1.21.1.10.4. Vote Passes 29:5:0
 - 1.21.1.11. Nomination of Chair for this study group.
 - 1.21.1.11.1. Nomination of Rich Kennedy
 - 1.21.1.12. Discussion of whether a study group can be formed without a Quorum.
 - 1.21.1.13. Quorum Check – 52 members are present out of 103 voting members. We have a Quorum.
 - 1.21.1.14. Previous motion ruled out of order.
 - 1.21.1.15. This discussion is deferred until the Wednesday Plenary.
- 1.21.2. ETSI Documents are available on 802.11 web site.
 - 1.21.2.1. It is a mirrored site, and the organization is a bit arcane.
- 1.21.3. 802.11a Enhancements for European Compliance
 - 1.21.3.1. Papers have been submitted to TGe on this subject.
 - 1.21.3.2. We will set up a sub group within TGe to address DFS and TPC. With these enhancements we believe we can be European compliant.
 - 1.21.3.3. Proposal to break TGe into three subgroups:
 - 1.21.3.3.1. Security

- 1.21.3.3.2. DFS and TPC
- 1.21.3.3.3. QoS and other MAC enhancements
- 1.21.3.4. Determine a means to incrementally approve these separate components, so each component can be released as soon as possible
- 1.21.3.5. Motion divide TGe into 3 subgroups. A) Security / Authentication, B) QoS / Misc, C) DFS / TPC, and to authorize the WG Chair and TGe Chair to implement a phased approval process for the subgroups
 - 1.21.3.5.1. Motion ID 224
 - 1.21.3.5.2. Moved John Fakatselis
 - 1.21.3.5.3. Seconded Ivan Reede
 - 1.21.3.5.4. Discussion
 - 1.21.3.5.4.1. There is a problem with the PAR. This work isn't authorized in the PAR.
 - 1.21.3.5.4.2. Request for this to be ruled out of order
 - 1.21.3.5.4.3. Ruled Out Of Order by the Chair
 - 1.21.3.5.4.4. Moved to Set Adjourn Time 10:30AM
 - 1.21.3.5.4.4.1. Moved Matthew Shoemake
 - 1.21.3.5.4.4.2. Motion ID 225
 - 1.21.3.5.4.4.3. No Discussion
 - 1.21.3.5.4.4.4. Vote on adjourn time – passes 35:08
- 1.21.3.5.5. Appeal of ruling out of order. The PAR can divide itself. The Topic of DFS TPC is within the scope of the PAR.
 - 1.21.3.5.5.1. Discussion against the appeal – the WG does not have the ability to implement a phased approval process, with one PAR.
- 1.21.3.5.6. Vote on appeal to disallow previous motion. Fails 9:13:32. The chairs ruling is overruled.

1.22. Adjourn for Sub Groups at 10:20

802.11 / 802.15 8th Joint Session, September 20, 2000

- 1.1. *Called to order by Stuart Kerry and Bob Heile at 1:00PM***
- 1.2. *Opening***
 - 1.2.1. Agenda Review
 - 1.2.2. New Business
 - 1.2.2.1. None
 - 1.2.3. Roll Call skipped due to size of gathering
- 1.3. *Approval of Agenda***
 - 1.3.1. By unanimous consent
- 1.4. *Announcements***
 - 1.4.1. C Bisidikian, Guest editor of IEEE network magazine. Special issue on wireless networks September 2001. Call for papers, abstracts due March 2001.
 - 1.4.2. Email Reflectors – please restrict messages to official business of the IEEE working groups
 - 1.4.3. We have pre-registration forms for November plenary.
- 1.5. *Approval of Minutes from La Jolla***
 - 1.5.1. Each working group has independently approved their minutes
- 1.6. *Old Business***
 - 1.6.1. A joint document section will be established on the 11 / 15 web sites. Joint web site access will be established for both WG's private areas.
 - 1.6.2. Mirror site of ETSI/BRAN site is available on IEEE web site.
 - 1.6.3. Review of Interim Meetings
 - 1.6.3.1. Plenary in Tampa
 - 1.6.3.2. January 2001 Interim will be held in Monterey CA, Jan 15th to 19th, 2001. Hyatt Regency, Hotel reservation deadline Dec 4th.
 - 1.6.3.3. March Plenary – Hilton Head, SC
 - 1.6.3.4. May Interim – Hosted by Parkervision / Intersil in Orlando Florida. Week of May 13th.
 - 1.6.3.5. July Plenary – Portland OR
 - 1.6.3.6. September Interim – looking for volunteers for hosts.
 - 1.6.4. Seattle Financials, Year to Date
 - 1.6.4.1. document 802.15/231r0
 - 1.6.4.2. Surplus amount \$9452.05
 - 1.6.5. Wireless Network for meetings
 - 1.6.5.1. Dick Eckard has been working on a IEEE owned permanent wireless network proposal.
 - 1.6.5.2. 2 APs 2 file servers, 2 wireless preamps and microphones. Shipping containers, 24 radio cards to lend at meetings.
 - 1.6.5.3. Projected expense is \$9100.
 - 1.6.5.4. 3COM is interested in donating equipment.
- 1.7. *Task Group and Study Group Reports***

- 1.7.1. 802.11 TGd Update
 - 1.7.1.1. TGd did not meet. The draft is being put together for sponsor ballot. It will be an electronic ballot.
 - 1.7.1.2. There will be a 30 day ballot. The results will not be available by November, so any comments will be resolved in January.
 - 1.7.1.3. All no-voters have changed their votes to approval
- 1.7.2. 802.11 TGe Update
 - 1.7.2.1. Significant progress so far. The TG has been broken into subgroups – QoS, Security, sponsored an ad hoc group to address DFS/TPC.
 - 1.7.2.2. In the QoS group we have passed a motion to end the call for proposals at the November meeting.
 - 1.7.2.3. We have planned to have a baseline complete by November.
- 1.7.3. 802.11 TGf Update
 - 1.7.3.1. The goal for this week was to complete a first draft, but will not be achieved. There have been no proposals for multiple distribution environments.
- 1.7.4. 802.11 HRb SG
 - 1.7.4.1. LB 23 – par reaffirmed with a vote of 70:0:0
 - 1.7.4.2. Approved selection procedure, functional requirements, and comparison criteria. There will be a WG motion to approve these documents.
 - 1.7.4.3. Approved a motion related to FCC.
 - 1.7.4.4. A draft press release was generated. The latest version includes modifications made by ExCom.
 - 1.7.4.5. Final approval of PAR will be made today or tomorrow, forming TGg.
 - 1.7.4.6. Discussion
 - 1.7.4.6.1. When will the FCC conference call take place? That is the motion that will be brought up in the 802.11 plenary. The call would take place in November.
 - 1.7.4.6.2. Is it premature to adopt requirements and criteria within 24 hours of the formation? The group has been meeting for almost a year now, plus open teleconferences.
- 1.7.5. 802.15.1 BT radio 1 task group
 - 1.7.5.1. Review of presentations
 - 1.7.5.2. Draft of 800 pages has been forwarded to IEEE editor.
 - 1.7.5.3. Approved letter ballot 3 resolutions, disposed some of comments. Some comments to go to Bluetooth SIG for resolution.
 - 1.7.5.4. Project plan to be updated.
- 1.7.6. 802.15.2 Coexistence task group
 - 1.7.6.1. Report in 802.15 document 268r0
 - 1.7.6.2. Coexistence model – mutual interference of WLAN and WPAN upon one another.
 - 1.7.6.3. Mechanisms – techniques to facilitate coexistence
 - 1.7.6.4. Review of presentations.
 - 1.7.6.5. Call for presentations on coexistence mechanisms
- 1.7.7. 802.15.3 High Rate Task Group
 - 1.7.7.1. Objective to reduce MAC/PHY proposals by 50%. Final choice in November. Draft standard in 2002.
 - 1.7.7.2. More work is necessary before the first cut. There will be no vote this week.
 - 1.7.7.3. Target to have selection votes in November.
- 1.7.8. 802.15 Radio 2 Study Group

- 1.7.8.1. Study group approved at the close of the La Jolla meeting.
- 1.7.8.2. The charter is to address a PAR for a second generation Bluetooth radio with a rate between Bluetooth 1 and the 802.15 high rate.
- 1.7.8.3. Discussion
 - 1.7.8.3.1. Is the radio group looking at WBFH? No the charter is clear – Bluetooth SIG enhancement with a corresponding IEEE standard enhancement.
- 1.7.9. 802.15 Low Rate Study Group
 - 1.7.9.1. Report in document 802.15:314
 - 1.7.9.2. Formed in La Jolla meeting. 5 conference calls have taken place. PAR and 5 criteria drafts have been generated. Ready to submit to .15WG
 - 1.7.9.3. Low rate connectivity with minimal battery consumption. Maximum data rate of 200Kbps, but will support down to 1kbps.
 - 1.7.9.4. Interested in location tracking capabilities.
 - 1.7.9.5. Will be voted on by .15 WG and then move on to ExCom and NesCom, expect to be a task group in January.
 - 1.7.9.6. Expect to have a standard in January 2002.
- 1.8. Review of Joint Regulatory Activities**
 - 1.8.1. Ultra Wideband Update
 - 1.8.1.1. NPRM 98-153. Comments closed Sept 12, 2000.
 - 1.8.1.2. Proposed to allow class B above 2GHz, 12dB below class B below 2GHz
 - 1.8.2. 5GHz WLAN Industry Advisory Group
 - 1.8.2.1. To establish a single global standard for 5GHz.
 - 1.8.2.2. Compaq Intel Microsoft.
 - 1.8.3. 802.11a in Europe
 - 1.8.3.1. Effort underway to allow 802.11a to operate in Europe
 - 1.8.3.2. Drafted a response to the ETSI BRAN letter of May 2, 2000.
 - 1.8.3.3. TPC / DFS is being addressed in 802.11e
 - 1.8.4. NPRM 99-231 ruling
 - 1.8.4.1. R & O issued , allowing WBFH.
 - 1.8.4.2. Processing gain issue not yet decided.
 - 1.8.5. WRC
 - 1.8.5.1. WRC expected a US proposal for allocation for upper UNII bands for RLAN apps.
 - 1.8.5.2. Needs to be included in agenda for 2003.
- 1.9. IEEE Publishing Staff presentation**
 - 1.9.1. Susan Tatiner, on IEEE copyright rules and issues.
 - 1.9.2. Discussion
 - 1.9.2.1. Is the working group not allowed to accept a submission that is copyrighted, or only if it is destined for a draft standard? Yes, as long as it is not included in a standard.
- 1.10. 802.11 / 802.15 / 802.1x Liaison regarding Bridges**
 - 1.10.1. Review of 802.1 activities
 - 1.10.2. Higher layer interface working group – issues above the MAC service boundary within an 802 LAN environment.

- 1.10.3. Specifically regarding MAC bridging 802.1d and now 802.1q the VLAN standard. More recently 802.1x (port based access control).
- 1.10.4. Are there opportunities for liaison that are not being addressed between our groups?
- 1.10.5. There may be an opportunity with respect to QoS, over 802 networks.
- 1.10.6. Discussion
 - 1.10.6.1. What is the status of 802.1x? We've had a successful working group ballot. We've been working on comment resolution, very nearly done. One more confirmation ballot, at least. Sponsor ballot in November to December time frame.
- 1.11. Coexistence issues – 802.11 / 802.15 / 802.16**
 - 1.11.1. Call for interest to form a group to deal with coexistence at 5GHz. The 802.15.2 group addresses the 2.4GHz band.
 - 1.11.2. 802.16 also has a 5GHz initiative.
 - 1.11.3. We concluded to table this in the 802.11 WG, and raise it in the 802 Executive Committee
- 1.12. New Business**
 - 1.12.1. Thanks to Rich Ditch for sponsoring
- 1.13. Adjourned at 3:00 PM**

802.11 Wednesday Plenary Session, September 20, 2000

1.1. *Called to order by Stuart Kerry at 3:30PM*

1.2. *Review of approved agenda*

1.3. *New Agenda Items*

1.3.1. Joint Motion between Ad Hoc regulatory and High Rate Study Group – Liaison meeting with FCC regarding Process gain issue.

1.3.2. Proposal for 5GHz global standard (agreeable to merge with existing agenda item)

1.3.3. Extend the time allocated?

1.3.3.1. Time extended to complete this agenda without objection

1.3.4. Approval of Agenda

1.3.4.1. Discussion

1.3.4.2. Note that there is a DSL forum meeting at the same time as our Plenary. Request that a liaison letter be sent to the DSL forum. The 802.11 Chair will pass the message to the 802 ExCom to request a letter to DSL Forum.

1.3.4.3. Agenda accepted without objection

1.4. *Affirm liaison representatives from 802.11*

1.4.1. The roles and responsibilities

1.4.2. From 802.11 to 802.15 - Bruce Kreamer, Al Petrick, Peter Murray

1.4.3. From 802.15 to 802.11 Alan Heberling,

1.4.4. From 802.16 Naftali Chayat, John Kowalski

1.4.5. From 802.11 to WECA – Jim Zyren

1.4.6. From ETSI to 802.11 – Jamshid Kun Jush

1.4.7. Motion: that Stuart Kerry be appointed as the Liaison between 802.11 and ETSI BRAN

1.4.7.1. Moved Al Petrick

1.4.7.2. Seconded Harry

1.4.7.3. Approved without objection with unanimous consent

1.4.8. David Skellern volunteers to liaison from 802.11 to ETSI BRAN (HiperLAN).

1.4.9. Motion: that David Skellern be appointed as a Liaison between 802.11 and ETSI BRAN

1.4.9.1. Moved Al Petrick

1.4.9.2. Seconded Harry Worstell

1.4.9.3. Approved without objection, by unanimous consent.

1.4.10. We have approved a liaison between 802.11 and IEEE P1363 : Glenn Zorn

1.4.10.1. Glenn Zorn approved as liaison between 802.11 and P1363 without objection

1.5. *5GHz Global Standard / Convergence Study Group*

1.5.1. Document 284.

- 1.5.2. A letter from the 5GHz wireless industry advisory group has been sent to the 802.11 Chair.
- 1.5.3. 802.11 and ETSI BRAN have established a good working relationship. If there is sufficient interest in 802.11 and ETSI BRAN, this could be considered.
- 1.5.4. Discussion
- 1.5.4.1. The same large corporations participate in all these standards bodies and industry forums. Yet we cannot reach an agreement. Urge the chairs to work out procedures to expedite such unification work.
- 1.5.4.2. The intent is good, but the details of the wording is a concern. 802.11 shouldn't commit to create a global standard. It has the potential to invalidate a lot of work that has been done and is being done.
- 1.5.4.3. The proposal commits 802.11 to work with ETSI, but not to create a single standard for the band.
- 1.5.4.4. This is a worthwhile goal. They are addressable, but it does require cooperation all around. But we should do what we can to push this forward.

1.5.5. Motion: to approve a study group to look at a means to converge the 3 major wireless LAN standard: IEEE 802.11, ETSI-BRAN HiperLAN /2, and MMAC.

- 1.5.5.1. Motion ID 227
 1.5.5.2. Moved Caldwell
 1.5.5.3. Second Evan Green

1.5.6. Discussion

- 1.5.6.1. This wording calls for a convergence of 802.11 (all the PHYs and the MAC and MAC extensions). This says one size fits all. Opposes this. There is no benefits of all these side effects.
- 1.5.6.2. Motion to amend – change 802.11 to 802.11a

- 1.5.6.2.1. Moved Dave Bagby
 1.5.6.2.2. Seconded Richard Paine
 1.5.6.2.3. Discussion

- 1.5.6.2.3.1. 802.11a is a PHY only. Changing the PHY only could not accomplish this goal.
- 1.5.6.2.3.2. Supports the intent of the amendment. 802.11a doesn't include a MAC. This would require MAC changes. Without a change to the scope of 802.11 we cannot do this.
- 1.5.6.2.3.3. Call the question

- 1.5.6.2.3.3.1. John F
 1.5.6.2.3.3.2. John K

- 1.5.6.2.3.4. Vote calling the question: 44:1:0

- 1.5.6.3. Vote on the motion to amend: passes 23:18:12
- 1.5.6.4. Motion as amended:
- 1.5.6.5. Motion: to approve a study group to look at a means to converge the 3 major wireless LAN standards: IEEE 802.11a, ETSI-BRAN HiperLAN /2, and MMAC.
- 1.5.6.6. Discussion

- 1.5.6.6.1. This motion should be contingent on the other two bodies agree. Suggests an amendment along those lines:
- 1.5.6.6.2. There are two necessary conditions

1.5.6.7. Motion to amend to:

1.5.6.8. Motion: to approve a study group to look at a means to converge the 3 major wireless LAN standards: IEEE 802.11a, ETSI-BRAN HiperLAN /2, and MMAC, conditional on the receipt of approval objectives from the industry advisory group by 10/2/00 and the setting up of similar study groups by ETSI-BRAN HiperLAN /2, and MMAC by 11/20/00

1.5.6.8.1. Moved Dave Bagby

1.5.6.8.2. Second John F

1.5.6.9. Discussion

1.5.6.9.1. The original motion was about the work we should we do. This makes it contingent on others actions. Against the motion

1.5.6.9.2. This covers us with the other groups.

1.5.6.9.3. Calls the question

1.5.6.9.3.1. John K, Ivan

1.5.6.9.3.2. Vote on calling the question: 54:0:5

1.5.6.10. Vote on the motion to amend: passes 30: 11: 18

1.5.6.11. Call the question on the main motion

1.5.6.11.1. Dave Bagby

1.5.6.11.2. John K

1.5.6.11.3. Vote on calling the question: 44:2:10

1.5.6.12. Vote on the main motion: passes 28:13:17

1.5.7. Discussion

1.5.7.1. Are there any nominations for the chair of this study group?

1.5.7.2. This study group won't exist until November.

1.5.7.3. The 802.11 chair will inform ETSI that we have formed a Study Group at the next ETSI meeting.

1.5.7.4. Nominate Richard Kennedy as chair of SG

1.5.7.5. We trust the chair of 802.11 to communicate the conditional nature of this action, and defer appointments until November.

1.5.7.6. This group comes into being when the conditions are satisfied. 11/20/00 is the latest that could happen. It is not a specific date.

1.6. **Presentation by hLAN on Global 5GHz standard**

1.6.1. Gil Bar-Noy, hLAN - Document 272

1.6.2. Coexistence plan for HiperLAN and 802.11a MACs.

1.6.3. Time division multiplexing between 802.11a and HL2

1.7. **802.11a Enhancements for European Compliance**

1.7.1. Ad Hoc Group – has generated a draft PAR to form the 5GHz Spectrum and Transmit Power Management Study Group.

1.7.2. Document 301.

1.7.3. Reference to document 171, HiperLAN rules, decision number 5 requires features of dynamic frequency selection and transmit power control.

1.7.4. If 802.11 is modified to comply with these rules, it could be allowed to operate in Europe after the review in two years.

1.7.5. Motion to authorize formation of a 5GHz Spectrum and Transmit Power Management Study Group until the close of the November Plenary.

- 1.7.5.1. Moved Peter E
- 1.7.5.2. Seconded John K
- 1.7.5.3. Motion ID 230
- 1.7.5.4. No Discussion

1.7.6. Vote on Motion: Passes 53:1:4

1.8. Motion to recess until 8:00AM Friday

- 1.8.1. Moved Dave Bagby
- 1.8.2. Motion ID 231
- 1.8.3. Second Chris H
- 1.8.4. Vote: Motion fails 27:30:9

1.9. Proposal for SG 2.4GHz Wideband FH

- 1.9.1. Naftali Chayat
- 1.9.2. Document 311

1.9.3. Motion: That the 802.11 WG establish a Study Group with the objective of preparing a PAR for a WBFH PHY project.

- 1.9.3.1. Naftali
- 1.9.3.2. Second Richard Paine
- 1.9.3.3. Motion ID 232
- 1.9.3.4. Discussion

- 1.9.3.4.1. This brings nothing more to the market. We are already doing a higher rate 2.4GHz SG. Opposed the motion.
- 1.9.3.4.2. We have agreed that there would be a single High Rate PHY for 802.11 in the 2.4GHz.
- 1.9.3.4.3. We need to clarify if this motion contradicts the previous position of a single high rate PHY.
- 1.9.3.4.4. When we chartered the HRB SG we were looking to find higher performance solutions for 2.4GHz band. This should be brought to the HRB SG.
- 1.9.3.4.5. This group has made explicitly clear that they believe that WBFH is detrimental to the users of the band and the standard. This would send the wrong message to the market.
- 1.9.3.4.6. One of the five criteria is unique identity. This would never have a unique identity compared to HRB SG

1.9.3.5. Call the Question

- 1.9.3.5.1. Ivan
- 1.9.3.5.2. Dave B
- 1.9.3.5.3. Vote to call the question: 55: 1: 6

1.9.3.6. Vote on the main motion: 5:44:13

1.10. Joint Ad Hoc Regulator / HRB SG liaison with FCC

1.10.1. Matthew Shoemake

1.10.2. Motion: the High Rate 802.11b SG and A Hoc Regulatory Group jointly schedule a telephone conference call with the OET at

the FCC for the November meeting to discuss their perspectives on the processing gain issue. To schedule conference calls of HRbSG / TGg and Ad Hoc Regulatory to determine the agenda for the FCC conference call.

- 1.10.2.1. Moved Matthew Shoemake
- 1.10.2.2. Motion ID 233

1.10.3. Discussion

- 1.10.3.1. We have to talk to our ombudsman who must be involved in this issue as well. This is also an output to the Executive committee.
- 1.10.3.2. This motion is a result of HRbSG and the Ad Hoc Reg group. Both groups passed motions approving this motion.
- 1.10.3.3. What is the usefulness of this phone call? Do we have a position to advocate? We need to go in with hard data and a proposal with benefits to society. Oppose the motion.
- 1.10.3.4. What does the motion want to accomplish? The only difference is that we would be using the 802.11 name. Why is that significant for information gathering. Perhaps the chairs need more time to work this out.
- 1.10.3.5. What better ways are there to approach this issue? Given that we have no proposals now, this is premature. Advocates sending an official letter to the FCC and we anticipate having a dialog with them as we proceed.
- 1.10.3.6. Call the question

- 1.10.3.6.1. John K
- 1.10.3.6.2. Ivan
- 1.10.3.6.3. Vote on call the question: 35:7:2

1.10.4. Vote on the motion: fails 10:27:20

1.11. Adjourn

Friday, September 22, 2000

- 1.1. Minutes taken by Michael Fischer substituting for Tim Godfrey who had to leave unexpectedly on Thursday evening**
- 1.2. Call to order by Stuart Kerry at 08:08AM**
- 1.3. Review of revised agenda**
 - 1.3.1. New items
 - 1.3.1.1. Parliamentarian's report
 - 1.3.1.2. 5GHz globalization SG report
 - 1.3.1.3. Reminds members that a slot exists for new business
 - 1.3.2. Agenda accepted without dissent
- 1.4. Announcements**
 - 1.4.1. Chairs' pre-meeting conference calls 10/09 and 10/30
 - 1.4.1.1. TGe sub-group chairs should participate
 - 1.4.1.2. open meeting, but purely administrative
- 1.5. WG Parliamentarian's Report; Bob O'Hara**
 - 1.5.1. Clarifies the reason to enforce Roberts' Rules is NOT delay and complication but rather to require that we follow the rules we are required to use from IEEE-SA, 802, 802.11 all of which refer to Roberts' Rules.
 - 1.5.2. If we don't follow proper procedure, the results of the work could be nullified by an appeal due to proper procedure not being followed:
 - 1.5.2.1. An appeal will, at a minimum consume time and delay the standard
 - 1.5.2.2. At worst the work could need to be re-done or the PAR could be revoked
 - 1.5.3. Beyond 802 or IEEE-SA appeal there could be challenges in court, as has happened to some other (non-IEEE) standards bodies, with broad (undesirable) consequences.
 - 1.5.4. Makes strong statement that the rules are there to facilitate making sure all opinions be heard, and that the best way to make progress is to follow them – "Go slow to go fast."
 - 1.5.5. Recommends parliamentary inquiries rather than proceeding when unsure of the rules or appealing rulings of the chair, which should only be used as a last resort.
 - 1.5.6. Discussion
 - 1.5.6.1. There are cases the rules are used to prevent items from being heard as well as the opposite
 - 1.5.6.2. Concern that some of the rules issues are seen as disputes when they are uncertainty of how to proceed, and urges asking of how to achieve the desired goals
 - 1.5.6.3. Sometimes rules are used to "prevent the general intent of going forward" especially when they cut off discussion before all viewpoints are heard: we should not be too quick to call the question
 - 1.5.6.4. Notes that whether to end debate is in control of the group, since a 2/3 majority is needed to cut off debate
 - 1.5.6.5. A suggestion based on how some other groups operate is to attempt to have successive discussion speakers be from alternate viewpoints so

that a progression of like opinions does not lead to cutoff prior to all views being adequately heard

1.5.6.6. A point that applying some common courtesy would make things go smoother

1.5.7. Change in procedure for WG reports and motions

1.5.7.1. Reports in the agenda are just for the report

1.5.7.2. Motions are announced in the reports, but the motions and debate and votes are moved to new business where they belong

1.5.7.3. "adjourn" for sub-groups should properly be to "recess" for sub-groups because technically "adjourn" drops the items remaining on the agenda, whereas "recess" on Monday and Wednesday sessions preserves the agenda items.

1.5.7.4. After clarifying a few details these rule changes are accepted without dissent for immediate implementation

1.6. **802.11 WG Operating Rules Revision; Al Petrick**

1.6.1. Announces that a revision of the operating rules is on the server and should be reviewed by all interested parties.

1.7. **WG, TG, SG, and Sub-Group chairs' reports updates and objectives updates are to be supplied to Tim Godfrey for updating of the Web Site**

1.8. **Document list update; Harry Worstell**

1.8.1. 335 documents so far this year

1.8.2. Emphasizes that there IS a required format and templates to create the proper formatting.

1.8.2.1. To date he has been fixing minor problems with submitted documents, but he cannot be relied upon to do this in the future!

1.8.2.2. More notices of how to find the templates will be added to the web site.

1.8.3. Change of Harry Worstell's position from "Co-Vice Chair" to "Vice Chair" approved by unanimous voice vote.

1.9. **TGB-COR1 Closing Report; Carl Andren**

1.9.1. All issues resolved and all that remains is to send this for an (electronic) sponsor ballot.

1.9.2. In the (anticipated) absence of ballot comments by that time there will be no TGB-COR1 meetings in November.

1.10. **TGD Closing Report; Bob O'Hara**

1.10.1. All issues resolved and a sponsor ballot pool request will go out from IEEE within the next week or two.

1.10.2. The ballot pool formation time plus balloting time require more than the time available prior to the November meeting, so there is no meeting planned for November.

1.11. **TGE Closing Report; John Fakatselis**

1.11.1. Good progress this week, made up much of the time lost due to the lack July meeting

1.11.2. New officers

1.11.2.1. Michael Fischer is TGE editor

1.11.2.2. QoS Sub-group

- 1.11.2.2.1. Chair: John Fakatselis
 - 1.11.2.2.2. Editor: Michael Fischer
 - 1.11.2.3. Security Sub-group
 - 1.11.2.3.1. Chair: Dave Halasz
 - 1.11.2.3.2. Editor: Jesse Walker
 - 1.11.3. QoS Sub-group reports good progress on a baseline and intent to continue this with teleconferences, etc. between now and the next meeting
 - 1.11.4. Security Sub-group reports hearing all of its proposals and is on schedule
 - 1.11.5. Spectrum Managed 802.11a (SMa) SG report; Carl Temme
 - 1.11.5.1. Formerly the DFS/TPC ad-hoc within TGE, but on Wednesday split off into a separate sub-group
 - 1.11.5.2. PAR SCOPE
 - 1.11.5.2.1. 802.11a MAC and PHY extensions to support spectrum management mechanisms to meet additional regulatory (e.g. CEPT)
 - 1.11.5.3. Objectives
 - 1.11.5.3.1. Define objectives and selection criteria
 - 1.11.5.3.2. Intends to finalize PAR and 5 Criteria for ballot
 - 1.11.5.3.3. Review any comments so that revisions can be approved by final 802.11 full WG session in November
- 1.12. TGF Closing Report; Dave Bagby**
- 1.12.1. Meeting notes are cursory because of lack of a secretary
 - 1.12.1.1. Call for TGF secretary
 - 1.12.1.2. Chair notes meetings can be terminated due to lack of a secretary if the chair does not want to take minutes himself
 - 1.12.2. Progress
 - 1.12.2.1. No new proposals, but a lot of ad-hoc discussions, only paper presented was 00/305.
 - 1.12.2.2. Some consensus is beginning to emerge, but nothing has been adopted yet
 - 1.12.2.2.1. Connecting APs via Mobile IP or AP-AP tunnels
 - 1.12.2.2.2. Security for "reasonably secure" considering 802.1X or IPsec between APs
 - 1.12.2.3. No future consideration of additional work due to expiration of call for proposals without any more submissions
 - 1.12.2.4. Generated a template for the draft, but no content yet
 - 1.12.2.5. About 45 people attended by many fewer identified themselves as present to contribute rather than to learn.
 - 1.12.2.6. There will be ad-hoc teleconferences announced on the reflector, but all decisions will be made at the next meeting. These are open calls, but if there to learn, please listen on the call.
- 1.13. TGG Closing Report; Matthew Shoemake**
- 1.13.1. The former HRb SG is now officially TGG
 - 1.13.2. Have finished several documents which will the subject of approval motions later at this meeting
 - 1.13.3. Intend to issue CALL FOR PROPOSALS
 - 1.13.3.1. deadline for intent to propose is Monday, October 30 (one week prior to opening of November meeting)

- 1.13.3.2. deadline for submission of the proposals is Monday, November 6
- 1.13.3.3. TGG may not have to meet until Tuesday, November 7
- 1.13.4. Have issues regarding FCC regulatory and will (re-) propose teleconference with FCC
- 1.13.5. Heard papers on spectral mask and FCC liaison
- 1.13.6. Objectives
 - 1.13.6.1. Continue with selection procedure
 - 1.13.6.2. Start to hear submitted proposals
 - 1.13.6.3. Take up liaison with external organizations
- 1.14. 5GHz Globalization SG Closing Report; Rich Kennedy**
 - 1.14.1. Objectives (while waiting for approval of corresponding SGs by ETSI-BRAN and MMAC, etc.)
 - 1.14.1.1. Choose name for group
 - 1.14.1.2. Explain how this effort differs from SMa SG
 - 1.14.1.3. Select secretary
 - 1.14.1.4. Report back to 5WLIAG
 - 1.14.1.5. Meet with ETSI-BRAN and MMAC
- 1.15. Regulatory Ad-Hoc Closing Report; Jim Zyren**
 - 1.15.1. Will bring a motion under old business.
- 1.16. Marketing Ad-Hoc Closing Report; Al Petrick**
 - 1.16.1. Intend to adopt more common documents and themes with 802.15 WPAN marketing activities
- 1.17. New Business (which is before old business because of error in ordering on the approved agenda)**

<ul style="list-style-type: none"> 1.17.1. An objection from the floor (Peter Ecclesine) prevented reversing this order by consent 1.17.2. Move to reconsider: Peter Ecclesine, 1.17.3. Seconded: John Barr 1.17.4. Motion passed without objection on voice vote

 - 1.17.5. Motion ID 234
 - 1.17.6. Order of new and old business reversed
- 1.18. Old Business-TGE**
 - 1.18.1. Announces motion (not needing plenary approval) that 00/304 has been adopted as TGE draft creation procedure
 - 1.18.2. Announces motion (not needing plenary approval) that 00/306 is document that shows division of topics between the QoS and Security activities within TGE
 - 1.18.3. Some discussion about whether formal 802.11 is needed and/or desired and the conclusion is that these are just internal resolutions adopted by TGE

<ul style="list-style-type: none"> 1.18.4. Motion: Move to announce an Ad-Hoc 802.11 TGE QoS meeting (location TBD) on October 24-25, 2000 with the single subject of working on the Baseline QoS proposal for the November plenary.

- | | |
|-----------|--------------------------------|
| 1.18.4.1. | Moved: TGE, no second required |
| 1.18.4.2. | Motion ID 235 |
| 1.18.4.3. | no discussion |
| 1.18.4.4. | Motion passes: 32-0-4 |

1.18.5. Motion: 802.11 to announce occurrence of weekly QoS ad-hoc teleconferences with first teleconference to Start 12:30 EDT on October 4, 2000 (weekly until the November meeting)

- | | |
|-----------|---|
| 1.18.5.1. | Moved: TGE, no second required |
| 1.18.5.2. | Motion ID 236 |
| 1.18.5.3. | no discussion |
| 1.18.5.4. | Motion approved unanimously by voice vote |

1.18.6. Motion: Announce that the November plenary meeting be the final opportunity for new proposals from which the QoS baseline will be created

- | | |
|-----------|--|
| 1.18.6.1. | Moved: John Fakatselis (as individual on behalf of TGE QoS subgroup because of oversight that this was omitted from approval) |
| 1.18.6.2. | Seconded: John Barr |
| 1.18.6.3. | Motion ID 237 |
| 1.18.6.4. | Discussion: Stated that this is desirable to make progress, clarified that this mean the cut off is the final TGE session of the November, 2000 plenary meeting. |
| 1.18.6.5. | Motion passes: 35-0-1 |

1.19. *Old Business-TGG*

1.19.1. Move: To affirm documents 00/209r3-Selection Procedure (approved in TGG 37-0-4), 00/210r4-Functional Requirements (approved TGG 34-0-6), and Document 00/211r9-Comparison Criteria (approved in TGG 38-0-5)

- | | |
|-----------|--|
| 1.19.1.1. | Moved: TGG, no second required |
| 1.19.1.2. | Motion ID 238 |
| 1.19.1.3. | Inquiry about type of motion, ruled technical because of detailed technical content of document. |
| 1.19.1.4. | Motion passes: 26-0-1 |

1.19.2. Break at 10:00, shortened to 10 minutes by chair due to requests from floor

1.19.3. Move: To affirm Call for Proposals with deadline for intent to propose of Monday, October 30, 2000 at 11:59PM EST, and deadline for submission of proposal to TGG of Monday, November 6, 2000 at 11:59PM EST (approved in TGG 18-0-0).

- | | |
|-----------|---|
| 1.19.3.1. | Clarification: "intent to propose" means to communicate to the TGG chair that a proposal will be forthcoming. |
| 1.19.3.2. | Moved: TGG, no second required |
| 1.19.3.3. | Motion ID 239 |
| 1.19.3.4. | Discussion: The intent is to end the consideration of new proposals at these deadlines because the selection process already adopted involves elimination voting so there is no easy way to accommodate later additions |
| 1.19.3.5. | Motion passes: 29-0-2 |

- 1.19.4. Move: that the TGg and Ad-Hoc Regulatory group jointly schedule a teleconference call with the OET at the FCC for the November meeting to obtain FCC perspectives on the processing gain and other relevant issues and to schedule conference calls of TGg and Ad-Hoc Regulatory group to determine the agenda for the FCC teleconference call. The TGg requests participation of the 802.11 WG chairman in these meetings.

- 1.19.4.1. Moved: TGG, no second required
 1.19.4.2. Motion ID 240
 1.19.4.3. Ruled out of order because the body has already made a decision on the same subject matter (motion 233) under the same

1.19.5. Move: Rescind the decision on Motion 233
--

- | |
|---|
| <p>1.19.5.1. Moved: Matthew Shoemake on behalf of TGG
 1.19.5.2. Seconded: Carl Andren
 1.19.5.3. Motion ID 241
 1.19.5.4. Chair reminds body this decision requires a 2/3 vote.
 1.19.5.5. Parliamentarian states that debate on a motion to rescind can include topics pertaining to the original motion as well as the decision to rescind.
 1.19.5.6. Discussion:</p> |
|---|

- | |
|--|
| <p>1.19.5.6.1. Query about why there is such a strongly held desire to revote on this issue.
 1.19.5.6.2. Answer, which did not get mentioned before end of debate on motion 233, is that the FCC has requested a dialog with IEEE 802 to coordinate these issues.
 1.19.5.6.3. Issue identified that there is no official liaison with the FCC, and the bilateral discussions by individual members put those individuals in the position of relating to this group what they have heard from the FCC as representatives of their companies, and this allows TGG to hear directly from the FCC. If we don't act now to learn what the FCC thinks we loose the ability to have a dialog while the FCC proceeding is still underway. "It is much better to hear directly from the commission."
 1.19.5.6.4. Notes that the new version of the motion is more specific in that it identifies the specific topic to be discussed with the FCC, which the prior motion was not.
 1.19.5.6.5. Stated that several people were not aware that this was requested by the FCC, and mentioned the reasons that the FCC sought guidance.
 1.19.5.6.6. Stated that supporting the decision to rescind is not equivalent to supporting the motion that is expected to be brought forward if the motion to rescind carries.
 1.19.5.6.7. Request for statement by chair as to what 802 rules are regarding approval of contacts with regulatory bodies such as this.
 1.19.5.6.8. Chair: That 802.11 officers (in this case chair) is to inform the 802 regulatory ombudsman (Vic Hayes), who takes the matter to 802.
 1.19.5.6.9. Stated that even though the FCC has requested this contact, they may be viewing 802.11 as a body of experts and that they want recommendations, and it is dangerous to talk as 802.11 to the FCC when a position has not been adopted on the processing gain issue by 802.11.</p> |
|--|

- 1.19.5.6.10. Stated that ongoing technical interchange with the FCC is desirable, and that in various times in the past there were quarterly informational teleconferences between 802.11 and the FCC, and that they proved useful. That given the limited scope for the desired contact, there is nothing to lose and potential benefits to both our current standards and our future plans due to making both sides aware of the concerns the other has. Furthermore, there is a reverse risk (vs. the lack of an official 802.11 position on the processing gain issue degrading 802.11's reputation with the FCC) that refusing the FCC request for communication could leave the wrong impression with the FCC.
- 1.19.5.6.11. Statement that the debate on the motion in TGG was not as free from contention, but the speaker is not yet a voting member (will be at next meeting). Concerned that there is not a clear consensus as to what the 802.11 position is, and to whether there actually has been an actual request from the FCC to 802.11, furthermore that the fact that this debate is occurring is sufficient evidence that the subject is undecided and that consensus is lacking
- 1.19.5.6.12. Statement that the requirements of the TGG PAR needs interchange with regulatory bodies, and if the group prevents that interchange there may need to be items of the PAR that need modification. There will be problems evaluating proposals in the absence of this input.
- 1.19.5.6.13. Request for details on PAR impact, speaker yields to TGG chair.
- 1.19.5.6.14. TGG Chair responds that the par includes "IEEE P802.11 will correspond with regulatory bodies worldwide in order to try to assure that the proposed extension will be applicable geographically as widely as possible." Chair clarifies that in his opinion this applies to the selected proposal, and does not speak to the period of evaluation.
- 1.19.5.6.15. Speaker resumes to say that the input is appropriate now to avoid the risk that the proposal selected is at odds with the FCC's intentions and/or preferences on the processing gain issue.
- 1.19.5.6.16. Statement against the motion by person who states he voted in favor of 233, in part due to promoting interests of minority, but is now unsure why there is contact needed without an 802.11/TGG position, in that if this is a limited time window before the FCC makes a decision is this really an information interchange and not advocating an (as yet unchosen) 802.11 position.
- 1.19.5.6.17. Stated that there is clear dispute here and the safe decision is to not rescind the motion, because in practice the

1.19.5.7. Moved to call question: David Bagby

1.19.5.7.1. Seconded: John Kowalski

1.19.5.7.2. Question called without objection

1.19.5.8. Vote on motion to rescind decision on 233

1.19.5.9. Motion to rescind fails: 10-14-11

1.19.5.10. Statement from floor thanking chair for allowing a proper debate on this issue

1.20. Old Business-Regulatory Ad-Hoc

- 1.20.1. Shows draft of letter proposed for sending to ETSI BRAN (document 00/308) and presents summary of contents.

- 1.20.1.1. Point from floor that "requirements" in paragraph D is ambiguous. Word "regulatory" is added prior to "requirements" without objection to clarify the intent of paragraph D.
- 1.20.1.2. Point from floor that IEEE patent policy should be mentioned in paragraph E. A sentence with this reference is added without objection.
- 1.20.1.3. Discussion of whether this was appropriately on the agenda, chair responds that this was among the objectives for the Ad-Hoc regulatory group on the opening session report, clarified by
- 1.20.2. Motion: Approve letter drafted by Regulatory Ad-Hoc Group in response to letter from ETSI BRAN of May 2, 2000 regarding adoption of IEEE 802.11A as a HiperLAN standard. Instruct IEEE 802.11 chair to forward amended letter to ETSI BRAN chairman.
 - 1.20.2.1. Moved: Jim Zyren on behalf of Regulatory Ad-Hoc
 - 1.20.2.2. Seconded: Peter Ecclesine
 - 1.20.2.3. Motion ID 242
 - 1.20.2.4. Motion passes: 10-0-4

1.21. *New Business-SMA SG*

- 1.21.1. Move IEEE 802.11 WG to approve Spectrum Managed IEEE 802.11a (SMa) PAR (00/301r1) and 5 Criteria (00/302r1); to submit them to ExCom for information; and require an IEEE 802.11 WG reaffirmation of these submissions at the opening IEEE 802.11 session of the IEEE 802 Project Plenary Meeting in Tampa, November, 2000.
 - 1.21.1.1. Moved: SMa, no second required
 - 1.21.1.2. Motion ID 243
 - 1.21.1.3. Discussion: Clarified that this was an attempt to avoid the glitches that delayed the TGG approval.
 - 1.21.1.4. Motion passes: 23-0-2

1.22. *New Business-TGG*

- 1.22.1. TGG chair yields to Mark Webster
- 1.22.2. Webster presents document 00/335 that expresses concerns that all proposers do not have common understanding of what proposals to TGG must include for proper evaluation and what proposers must do to satisfy the regulatory requirements of the proposal. This is a desire to amplify the call for proposals to further the pro
 - 1.22.2.1. Opinions from potential proposals range from no need to address the regulatory issue to a couple of interpretations of the current FCC rules.
 - 1.22.2.2. The Functional Requirements, Evaluation Criteria, and Selection Criteria documents already adopted may not be adequately aware of what they will have to answer, and unnecessarily risk elimination of their proposals over this omission and/or misunderstanding.

1.22.3. Motion: Add to the TGG call for proposals a supplementary statement specifying that the submitted proposals are advised to include a recommended strategy for achieving acceptance by worldwide regulatory bodies.

- 1.22.3.1. Moved: Mark Webster
- 1.22.3.2. Seconded: Matthew Shoemake

- 1.22.3.3. Motion ID 246
- 1.22.3.4. Discussion: TGG chair states that the omission that the lack of mention of regulatory issues in the evaluation criteria was because it was felt that proposers would know enough to do this on their own, and that the concern expressed in this motion was appropriate and well in line with the PAR for TGG.
- 1.22.3.5. Chris Heegard has concerns that this motion, which he supports, may unintentionally overly prioritize regulatory considerations over other items.

1.22.4. Motion to Amend: add the sentence at end of motion: "The IEEE 802.11 will promote the selected TGG technical solution, and only the selected solution, to regulatory agencies."

- 1.22.4.1. Moved: Chris Heegard
- 1.22.4.2. Seconded: Mark Webster
- 1.22.4.3. Motion ID 245
- 1.22.4.4. Discussion: Concern that the "only this solution..." might be seen as anti-competitive from the point of view of the FCC.
- 1.22.4.5. Chair requests parliamentary interpretation
- 1.22.4.6. Parliamentarian gives opinion that this is not against the rules of the body, in that the statement is on what to support, not on opposing anything before any regulatory body.
- 1.22.4.7. Several statements of confusion about scope of this amendment.
- 1.22.4.8. Statement that the amendment is unnecessary because the PAR already requires that the solution be promoted before regulatory body.
- 1.22.4.9. Adjournment extended until 12:15 without objection
- 1.22.4.10. TGG chair clarifies that the PAR does state the selected solution will be promoted, but not that there are limitations on what else may or may not be promoted.
- 1.22.4.11. Statement that the "selection" is the final ISO approval
- 1.22.4.12. Parliamentary inquiry on whether it is proper for a TGG selection to refer to an 802.11 action. Response is that is within the rules and the amendment is in order.
- 1.22.4.13. Statement that a rushed decision of this type is ill-advised.
- 1.22.4.14. Vote on amendment fails: 2-10-11

1.22.5. Return to main motion (ID 246)

- 1.22.5.1. No further discussion, proceed to vote
- 1.22.5.2. Motion Passes: 11-2-10

1.22.6. Next Steps:

- 1.22.6.1. Recommendation that meeting sessions start at 8AM during the November meeting.
- 1.22.6.2. No objections so chair rules to start at 8AM
- 1.22.7. Completed agenda, meeting Adjourned at 12:14PM.

Attendance list for the meeting held at **Radisson Resort & Spa, Scottsdale, AZ**

<i>Full name</i>	<i>status</i>	<i>att. %</i>	<i>phone</i>	<i>company</i>	<i>e_mail</i>
Dr. Eric J. Addeo ()	nonvoter	100	+1 201 348 7778	Panasonic	addeoe@panasonic.com
Dr. L Enrique Aguado (Enrique)	nearly voter	90	+44 113 233 2004	Supergold Communication, Ltd	enrique@supergold.com
Mr. Masaaki Akahane (Masa)	aspirant	40	+81 3 5795 5420	Sony Corporation	akahane@wcs.sony.co.jp
Dr. Reza Alavi ()	nearly voter	90	+1 782 868 7122	Analog Devices	reza.alavi@analog.com
Mr. Keith Amann (Keith)	voter	100	+1 303 440 5330	Spectralink	kamann@spectralink.com
Mr. Merwyn Andrade ()	aspirant	100	+1 408 526 4628	Cisco Systems Inc.	mandrade@cisco.com
Mr. Carl F. Andren (Carl)	voter	100	+1 321 724 7535	Intersil Corporation	candren@intersil.com
Mr. David Bagby	voter	100	+1 408 326 3762	3Com Corporation	david_bagby@3com.com
Mr. Jay Bain (Jay)	voter	100	+1 256 922 9229	Time Domain	jay.bain@tdsi.com
Mr. Gil Bar-Noy ()	nonvoter	100	+972 9 743 9701 ext 200	hLAN	gilb@hlan.com
Mr. David Barr ()	aspirant	100	+1 408 490 8293	C-Cube	david.barr@c-cube.com
Dr. Anuj Batra ()	nonvoter	100	+1 214 480 4220	Texas Instruments Incorporated	batra@ti.com
Mr. Bob Beach (Bob)	nearly voter	100	+1 408 528 2602	Symbol Technologies Inc.	bobb@sj.symbol.com
Mr. Stuart Biddulph ()	nonvoter	100	+1 801 320 7602	3COM	stuart_biddulph@3com.com
Mr. Jan Boer (Jan)	voter	100	+31 30 609 7483	Lucent Technologies Nederland	janboer@lucent.com
Mr. Jerrold L. Bonn (Jerry)	aspirant	100	+1 508 490 1771	Raytheon Company	jerrold_bonn@res.raytheon.com
Dr Donald J. Bowen ()	nonvoter	75	+1 973 236 6789	AT&T Labs	djbowen@att.com
Mr. Ronald Brockmann (Ronald)	voter	100	+31 30 229 6081	Intersil N.L. B.V.	ronald.brockmann@nwn.nl
Dr. Alistair G. Buttar ()	nonvoter	100	+41 22 7991 242	Motorola	alistair.buttar@motorola.com
Mr. Robert Byard ()	nonvoter	100	+1 801 984 5865	Micro Linear Corporation	bbyard@aros.net
Mr. Colum Caldwell (Colum)	voter	90	+353 1 677 9555	Supergold Communication, Ltd	colum.caldwell@supergold.com
Mr. Pat Carson (Pat)	aspirant	90	+1 408 467 5218	TDK Corporation of America	pcarson@tdkta.com
Dr. Chi-Chao Chao ()	nonvoter	20	+866 3 553 9128	Integrated Programmable Communications	ccc@inprocomm.com
Mr. Naftali Chayat (Naftali)	voter	100	+972 3 645 6262	BreezeCom	naftalic@breezecom.co.il
Dr. James C. Chen ()	nonvoter	30	+ 1 408 733 5290	Atheros Communications, Inc.	jamesc@atheros.com
Mr. W.C. Chen (Wen-Chiang)	voter	100	+886 3 5917157	Industrial Technology Research Institute	810739@ccloa1.ccl.itri.org.t
Mr. Yi-Ming Chen ()	nonvoter	40	+1 323 293 3001	LinCom	cheny@lincom.com
Mr. Brian Cheng ()	aspirant	100	+ 1 613 592 2122	Mitel Corporation	brian_cheng@mitel.com
Dr. Greg Chesson ()	aspirant	100	+1 408 773 5258	Atheros Communications, Inc.	greg@atheros.com
Dr. Sunghyun Choi (Sunghyun)	voter	100	+1 914 945 6506	Philips Research	sunghyun.choi@philips.com
Dr. John T. Coffey ()	aspirant	100	+1 707 284 2224	Texas Instruments	coffey@ti.com
Mr. Craig Conkling (Craig)	aspirant	80	+1 408 991 2749	Philips Semiconductor	craig.conkling@philips.com

<i>Full name</i>	<i>status</i>	<i>att. %</i>	<i>phone</i>	<i>company</i>	<i>e_mail</i>
Mr. Dennis Connors (Dennis)	nearly voter	75	+1 858 259 9240	Magis Networks	dconnors@magisnetworks.com
Mr. Wm. Caldwell Crosswy (Caldwell)	voter	100	+1 281 514 2774	Compaq Computer Corporation	caldwell.crosswy@compaq.com
Mr. Barry Davis ()	aspirant	90	+1 503 264 7287	Intel	barry.r.davis@intel.com
Mr. Wim Diepstraten (Wim)	voter	100	+31 30 609 7482	Lucent Technologies Nederland	wdiepstraten@lucent.com
Mr. Neal Domenen ()	nonvoter	90	+1 408 721 2485	National Semiconductor Corporation	neal.domenen@nsc.com
Mr. Mike Doyle ()	nonvoter	60	+1 905 812 6233	Teklogix	mdoyle@teklogix.com
Mr. Alain DuBreuil ()	nonvoter	75	+1 408 436 3939	NeoSilicon	alain.dubreuil@neosilicon.com
Mr. Larry Dunn ()	aspirant	80		Cisco Systems	ldunn@cisco.com
Mr. Dennis Eaton ()	aspirant	100	+1 321 729 4178	Intersil Corporation	deaton@intersil.com
Mr. Peter Ecclesine (Peter)	voter	100	+1 408 527 0815	Cisco Systems Inc.	petere@ieee.org
Mr. Richard Eckard (Dick)	voter	100	+1 781 466 2780	Verizon Communications	dick.eckard@verison.com
Mr. Javier Espinoza (Harvey)	nonvoter	90	+1 408 437 5230	TDK Corporation of America	hespinoza@tdkca.com
Mr. John Fakatselis (John)	voter	100	+1 407 729 4733	Intersil Corporation	jfakat01@intersil.com
Mr. Matthew James Fischer (Matt)	nearly voter	100	+1 408 501 8070	Broadcom Corporation	mfischer@broadcom.com
Mr. Michael Fischer (Michael)	voter	100	+1 210 614 4096	Choice Microsystems	mfischer@choicemicro.com
Mr. Jason Flaks	nearly voter	100	+1 415 558 0373	Dolby Laboratories Inc	jsf@dolby.com
Dr. Alain Fogel ()	nonvoter	100	+972 9 743 9701	hLAN	alainf@hlan.com
Mr. Kenji Fujisawa ()	aspirant	100	+81 3 5795 8507	Sony Corporation	fujisawa@sm.sony.co.jp
Mr. Nobuo Furukawa ()	nonvoter	100	+81 47 378 7124	TDK Corporation	nfuruka@mb1.tdk.co.jp
Mr. Marcus Gahler (Marcus)	nearly voter	90	+1 425 825 1770	NextComm, Inc.	mgahler@nextcomminc.com
Dr. Zvi Ganz (Zvi)	nearly voter	100	+1 978 250 0770	EnrichNet, Inc	zganzz@enrichnet.com
Mr. Atul Garg (Atul)	nearly voter	80	+1 408 991 5755	Philips Semiconductors	atul.garg@philips.com
Mr. Tim Godfrey (Tim)	voter	100	+1 913 706 3777	Intersil	tgodfrey@choicemicro.com
Dr. Steven D. Gray (Steven)	voter	100	+1 972 894 4422	Nokia Research Center	steven.gray@nokia.com
Mr. Evan Green (Evan)	voter	90	+1 503 264 8456	Intel Corporation	evan.r.green@intel.com
Mr. Patrick Green ()	nonvoter	90	+1 408 749 4948	Advanced Micro Devices	patrick.green@amd.com
Dr. Rajugopal Gubbi (Rajugopal)	voter	90	+1 916 939 9400	Sharewave Inc.	raju.gubbi@sharewave.com
Mr. David Halasz (David)	voter	100	+1 330 664 7389	Cisco Systems, Inc	dhala@cisco.com
Dr. Steve D. Halford ()	aspirant	90	+1 321 729 5130	Intersil Corporation	shalford@intersil.com
Mr. Yasuo Harada (Yasuo)	nearly voter	100	+ 81 6 6900 9177	Matsushita Electric Industrial Co. Ltd.	yasuo@isl.mei.co.jp
Dr. Amer A. Hassan ()	nonvoter	50	+1 425 705 9590	Microsoft	amerh@microsoft.com
Mr. Allen Heberling (Allen)	voter	20	+1 716-588-1939	Eastman Kodak, Co	allen.heberling@kodak.com
Dr. Chris Heegard (Chris)	voter	100	+1 707 521 3062	Texas Instruments	heegard@ti.com
Mr. Robert Heile (Bob)	voter	100	+1 781 466 2057	GTE Internetworking	bheile@bbn.com

<i>Full name</i>	<i>status</i>	<i>att. %</i>	<i>phone</i>	<i>company</i>	<i>e_mail</i>
Mr. Juha Heiskala (Juha)	voter	100	+1 972 894 5516	Nokia Research Center	juha.heiskala@nokia.com
Mr. Christopher Hinsz	aspirant	90	+1 408 528 2452	Symbol Technologies Inc.	chinsz@sj.symbol.com
Mr. Jin-Meng Ho (Jin-Meng)	voter	100	+1 214 480 1994	Texas Instruments Incorporated	jinmengho@ti.com
Mr. Maarten Hoeben (Maarten)	voter	100	+31 30 229 6083	Intersil N.L. B.V.	maarten.hoeben@nwn.nl
Mr. Frank P Howley, Jr (Frank)	voter	100	+1 650 494 7878	Atheros Communications, Inc.	fhowley@tspan.com
Mr. John Hughes ()	nonvoter	100	+1 408 528 2636	Symbol Technologies Inc.	jhughes@sj.symbol.com
Mr. Masayuki Ikeda (Masayuki)	voter	100	+81 266 52 3131	Seiko Epson Corp.	ikeda.masayuki@exc.epson.co.jp
Mr. Jun Iwasaki ()	nonvoter	30	+81 3 5795 5420	Sony Corporation	junjun@wcs.sony.co.jp
Mr. Jeff Jan ()	nonvoter	100	+1 408 867 6225	Chinese Information & Networking Association	jeff_jan@hotmail.com
Mr. Chien-Maw Jen (Bernard)	nonvoter	90	+886 3 577 0270	Accton Technology Corporation	bernard@accton.com.tw
Dr. Srinivas Kandala (Sri)	voter	100	+1 360 817 7512	Sharp Laboratories of America,	srini@sharplabs.com
Mr. Kevin Karcz	voter	100	+1 603 862 1008	University of New Hampshire	kjk@unh.edu
Mr. Vikram Karvat ()	nonvoter	50		National Semiconductor Corporation	vikram.karvat@nsc.com
Mr. Sushila Katiyar ()	nonvoter	90	+1 512 381 3821	Sigmatel	skatiyar@sigmatel.com
Mr. Dean M. Kawaguchi (Dean)	aspirant	80	+1 408 528 2629	Symbol Technologies Inc.	deank@sj.symbol.com
Mr. Richard Kennedy ()	aspirant	100	+1 281 514 8695	Compaq Computer Corporation	richard.kennedy@compaq.com
Mr. Stuart J. Kerry (Stuart)	voter	100	+1 408 991 4854	Philips Semiconductors, Inc.	stuart.kerry@philips.com
Mr. Ryoji Kido (Ryoji)	voter	100	+81 92 852 1873	Kyushu Matshushita Electric Co., Ltd.	kido@tr.kme.mei.co.jp
Mr. Etsuzo Kimura (Etsuzo)	voter	100	+81 42 333 5485	NEC Corporation	kimura@ped.land.fc.nec.co.jp
Mr. Ken Kimura (Ken)	voter	10	+1 201 271 3039	Panasonic	kenkimur@bellatlantic.net
Mr. Duncan Kitchin (Duncan)	voter	100	+1 503 264 2727	Intel Corporation	duncan.kitchin@intel.com
Dr. John M. Kowalski (John)	voter	100	+1 360 817 7520	Sharp Laboratories of America	kowalskj@sharplabs.com
Mr. Thomas E. Krueger (Tom)	nearly voter	90	425 825 1770 ext 107	NextComm, Inc.	tkrueger@nextcomminc.com
Dr. Dennis Kwan ()	nonvoter	30	+1 858 558 6088	Domain Knowledge, Inc.	dkwan@dknowledge.com
Mr. Oliver Lallier ()	nonvoter	100	+1 650 875 1555	France Telecom R&D	oliver.lallier@rd.francetelecom.com
Mr. David S. Landeta (David)	nearly voter	80	+1 407 729 5540	Intersil Corporation	dlandeta@intersil.com
Mr. Daun Langston ()	nonvoter	100	+1 512 426 0992	Sigmatel	daun@sigmatel.com
Mr. William Li ()	nonvoter	100	+1 510 647 1250 ext 28	ComSilica, Inc	wli@comsilica.com
Dr. Jingming Li Salina ()	nonvoter	30	+31 342 1294	Swisscom Ltd	jingming.lisalina@swisscom.com
Mr. Eddie Liao ()	nonvoter	100	+1 858 259 9240	Magis Networks, Inc.	eliao@magisnetworks.com
Mr. Douglas Makishima (Doug)	nonvoter	100	+1 925 460 1929	ParkerVision, Inc.	doug@d2d.com
Mr. André Martin (André)	voter	90	+1 450 441 2020 X6227	Bombardier Transportation	amartin@transport.bombardier.com

<i>Full name</i>	<i>status</i>	<i>att. %</i>	<i>phone</i>	<i>company</i>	<i>e_mail</i>
Mr. Leslie A. Martin ()	nonvoter	90		Rockwell Collins	lamartin@collins.rockwell.com
Mr. Bill McFarland (Bill)	voter	75	+1 650 494 7871X102	Atheros Communications	billm@atheros.com
Mr. Gary McGarr ()	nonvoter	100	+ 1 281 829 3706	Atheros Communications, Inc.	gmcgarr@atheros.com
Mr. Daniel R. McGlynn (Daniel)	voter	40	+1 516 738 4627	Symbol Technologies Inc.	mcglynn@symbol.com
Mr. Michael D. McInnis (Mike)	voter	15	+1 425 865 2840	The Boeing Company	michael.d.mcinnis@boeing.com
Mr. Pratik Mehta ()	nonvoter	100	+1 512 723 6214	Dell Computer Corporation	Pratik_Mehta@Dell.com
Mr. Robert Miller (Bob)	aspirant	100	+1 973 236 6920	AT&T Labs	rrm@att.com
Mr. Reiner Mim (Reiner)	voter	80	+1 408 731 2768	Proxim Inc.	rmim@proxim.com
Mr. Brett Monello ()	nonvoter	30	+1 503 681 8600 ext 226	Mobilian Corporation	brett.monello@mobilian.com
Mr. Tim Moore (Tim)	nonvoter	100	+1 425 703 9861	Microsoft	timmore@microsoft.com
Mr. Peter Murray	voter	90	+1 908 232 9054	Intersil	pmurray99@home.com
Mr. Marco Naeve ()	aspirant	100	+1 414 449 7270	Eaton Corporation	marconaeve@eaton.com
Mr. Ravi P. Nalamati (Ravi)	voter	100	+1 978 684 1222	Enterasys Networks, Inc	nalamati@enterasys.com
Mr. Tzvetan D. Novkov (Tzvetan)	nearly voter	100	+1 847 635 3247	Toko America Inc.	tnovkov@tokoam.com
Mr. Ivan Oakes ()	nonvoter	100	+44 1223 421025	Cadence	ifo@cadence.com
Mr. Bob O'Hara (Bob)	voter	100	+1 408 986 9596	Informed Technology Inc.	bob@informed-technology.com
Dr. Tomoki Ohsawa (Tomoki)	voter	90	+81 45 939 2179	NEC Corporation	t-ohsawa@cj.jp.nec.com
Mr. Dirk Ostermiller (Dirk)	aspirant	75	+1 801 278 6008	Micro Linear	dirko@xmission.com
Mr. Richard H. Paine (Richard)	voter	90	+1 425 865 4921	The Boeing Company	richard.h.paine@boeing.com
Mr. Mike Paljug (Mike)	aspirant	100	+1 321 729 5528	Intersil Corporation	mpaljug@intersil.com
Mr. Subra Parameswaran (Subra)	nearly voter	100	+1 408 721 8216	National Semiconductor Corporation	tps@lan.nsc.com
Mr. Gregory Parks (Greg)	voter	100	+1 916 939 9400 X3211	Sharewave Inc.	greg.parks@sharewave.co
Mr. Al Petrick (Al)	voter	100	+1 407 384 6149	ParkerVision, Inc.	apetrick@parkervision.com
Mr. Ron Provencio (Ron)	nearly voter	75	+1 707 284 2232	Alantro Communications	ronp@alantro.com
Dr. Javad Razavilar ()	aspirant	100	+1 858 674 8505	3COM	javad_razavilar@3com.com
Mr. Ivan Reede (Ivan)	voter	100	+1 514 620 8522	AmeriSys Inc.	i_reede@amerisys.com
Mr. Danny Rettig ()	aspirant	100	+972 4 865 5579	Intel	dany.rettig@intel.com
Mr. David Richkas ()	aspirant	80		Intel	dave.richkas@intel.com
Mr. Carlos A. Rios (Carlos)	voter	90	+1 408 326 2844	LinCom	riosc@lincom.com
Mr. Benno Ritter ()	nonvoter	75	+1 408 474 5115	Philips Semiconductors	Benno.Ritter@philips.com
Mr. William Roberts (William)	aspirant	75	+1 208 234 6679	American Microsystems, Inc.	wroberts@poci.amis.com
Mr. John Rosenlof ()	nonvoter	30	+1 707 521 3060	Texas Instruments	rosenlof@ti.com
Mr. Rob Roy ()	nearly voter	100	+1 503 681 8600 Ext 225	Mobilian Corporation	rob.roy@mobilian.com
Mr. Gunnar Rydnell (Gunnar)	voter	100	+46 31 344 63 20	Ericsson Mobile Data Design AB	gunnar.rydnell@erv.ericsson.se
Mr. Henry Saam	nearly voter	90	+1 858 523 2314	Magis Networks, Inc.	hsaam@magisnetworks.co

<i>Full name</i>	<i>status</i>	<i>att. %</i>	<i>phone</i>	<i>company</i>	<i>e_mail</i>
Mr. Tom Schneider ()	nonvoter	100	+1 972 934 3271	Texas Instruments	tschneider@4GNT.com
Dr. Wolfgang Schott ()	nonvoter	100	+41 1 724 8476	IBM	sct@zurich.ibm.com
Mr. Sid Schrum (Sid)	voter	100	+1 919 319 1890 x	Texas Instruments	sschrum@ti.com
Mr. Merkaz Sharona ()	nonvoter	100	+972 9 742 9701	hLAN	alainf@hlan.com
Mr. Matthew Sherman (Matthew)	nearly voter	100	+1 973 236 6925	AT&T Labs	mjsherman@att.com
Dr. Matthew B. Shoemake (Matthew)	voter	100	+1 214 761 6987	Texas Instruments Incorporated	shoemake@ti.com
Dr. Bill Shvodian ()	nonvoter	100	+1 301 614 1323	XtremeSpectrum	bshvodian@xtremespectru m.com
Dr. Aman Singla ()	nonvoter	100	+1 408 773 5272	Atheros Communications	aman@atheros.com
Mr. David Skellern (David)	voter	100	+61 2 8874 5404	Radiata Communications, Inc.	daves@radiata.com
Mr. Donald I. Sloan (Don)	voter	100	+1 330 664 7917	Aironet Wireless Communications Inc.	dons@cisco.com
Kevin Smart ()	nonvoter	100	+1 801 984 5865	Micro Linear Corporation	kevin@keltypack.com
Mr. Josep Sole ()	nonvoter	100	+1 650 875 1533	France Telecom R&D	josep.sole.tresserres@fran cetelecom.com
Dr. V. Srinivasa Somayazulu	aspirant	100	+1 503 264 4423	Intel Corporation	v.srinivasa.somayazulu@int el.com
Mr. Gary Spiess (Gary)	voter	75	+1 319 369 3580	Intermec Technologies Corp.	gary.spiess@intermec.com
Mr. James Syu ()	nonvoter	90	+886 3 578 8879	ADMtek,	james@admtek.com.tw
David Tahmassebi ()	aspirant	60	+1 408 392 7043	NeoSilicon	david.tahmassebi@neo-silic on.com
Mr. Hitoshi Takanashi (Hitoshi)	voter	100	+1 650 833 3634	NTT Multimedia Communications Laboratories	takanashi@nttmcl.com
Mr. Teik-Kheong Tan (TK)	nearly voter	100	+1 408 326 6524	3Com Corporation	teik_kheong_tan@3com.com
Mr. Carl Temme (Carl)	voter	100	+1 650 494 7878	Atheros Communications	ctemme@tspan.com
Mr. Harold Teunissen ()	aspirant	90	+31 35 687 5711	Lucent Technologies	hteunissen@lucent.com
Mr. Yossi Texerman ()	nonvoter	100	+972 9 743 0161 ext 309	hLAN	yossit@hlan.com
Mr. Mike Trompower (Mike)	voter	90	+1 330 484 7253		mtrompower@neo.rr.com
Dr. Chih C. Tsien (Chih)	voter	90	+1 858 385 4317	Intel	chih.c.tsien@intel.com
Mr. Tom Tsoulogiannis (Tom)	voter	100	+1 416 754 8007	Neesus Datacom Inc.	tomt@neesus.com
Mr. Adain Tucholski ()	nonvoter	75	+1 408 558 8318	Zilog, Inc.	atucholski@zillog.com
Mr. Khaled Turki ()	nonvoter	100	+1 214 480 6908	Texas Instruments Incorporated	khaled@ti.com
Mr. Toru Ueda ()	nonvoter	90	+81 743 65 4529	Sharp Corporation	ueda@slab.tnr.sharp.co.jp
Dr. Dmitri Varsanofiev	aspirant	80	+1 408 392 7063	NeoSilicon	dmitri@varsanofiev.com
Dr. Mahesh Venkatraman ()	nonvoter	100	+1 510 647 1250 ext 27	ComSilica, Inc	mahesh@comsilica.com
Mr. Ritesh Vishwakarma ()	nonvoter	100	+1 408 327 9990	Telencomm, Inc	ritesh.vishwakarma@telenc omm.com
Mr. Hirohisa Wakai (Hirohisa)	aspirant	90	+1 650 638 7273	Sharp Corporation	wakai@slab.tnr.sharp.co.jp
Dr. Jesse R. Walker (Jesse)	voter	90	+1 503 712 1849	Intel Corporation	jesse.walker@intel.com
Mr. Thierry Walrant ()	nearly voter	100	+1 408 617 4676	Philips Consumer Electronics	thierry.walrant@philips.com
Dr. Fujio Watanabe ()	nonvoter	90	+358 9 43761	Nokia Research Center	fujio.watanabe@nokia.com
Mr. Mark Webster (Mark)	nearly voter	100	+1 321 724 7537	Intersil Corporation	mark.webster@intersil.com

<i>Full name</i>	<i>status</i>	<i>att. %</i>	<i>phone</i>	<i>company</i>	<i>e_mail</i>
Mr. Mike Wehrs ()	nonvoter	30	+1 425 709 0772	Ignition	mwehrs@ignitioncorp.com
Dr. Mathew Welborn ()	nonvoter	100	+1 301 614 1323	XtremeSpectrum	mwelborn@extremespectrum.com
Mr. Menzo Wentink (Menzo)	voter	100	+31 30 225 97 52	Intersil N.L. B.V.	menzo@nwn.com
Mr. Steven D. Williams (Steven)	voter	100	+1 503 264 2043	Intel Corporation	steven.d.williams@intel.com
Mr. Waldemar Wojdak	nonvoter	45	+1 716 256 0200 ext 272	Performance Technologies, Inc	wjw@pt.com
Mr. Harry Worstell (Harry)	voter	100	+1 973 236 6915	AT&T Labs	hworstell@att.com
Mr. Hidehiro Yamashita (Hiro)	voter	100	+1 408 861 3921	Panasonic Technologies, Inc.	hyama@research.panasonic.com
Dr. Vladimir Yanover ()	aspirant	100	+972 3 645 7834	BreezeCom	viadimiry@breezecom.co.il
Mr. C.T. Yeh ()	nonvoter	100	+886 3 577 0270	Accton Technology Corporation	ctyeh@accton.com.tw
Mr. Glen Zorn ()	nonvoter	80	+1 425 471 4861	Cisco Systems	gwz@cisco.com
Mr. Jim Zyren (Jim)	voter	100	+1 407 729 4177	Intersil Corporation	jzyren@intersil.com

**IEEE P802.11
Wireless LANs**

**Minutes of 802.11 Task Group E
MAC Enhancements**

Date: September 18, 2000
Author: Tim Godfrey
Intersil
Phone: 913-706-3777
Fax: 913-664-2545
e-Mail: tgodfrey@intersil.com

**Minutes of the IEEE P802.11 Task Group E
MAC Enhancements**

September 18 - 22, 2000

Radisson Resort and Spa, Scottsdale, AZ

1. Monday Afternoon

1.1. Secretary

1.1.1. Tim Godfrey

1.2. Call to order

1.2.1. 3:30 PM

1.3. Agenda

1.3.1. Proposed Agenda

- 1.3.1.1. *Approval of Minutes*
- 1.3.1.2. *Policies overview*
- 1.3.1.3. *Schedule Overview*
- 1.3.1.4. *Reorganization of TGe*
 - 1.3.1.4.1. *SubGroups*
 - 1.3.1.4.2. *Ad Hoc Groups*
- 1.3.1.5. *Review and Questions on Requirements*
- 1.3.1.6. *Call for Papers*
- 1.3.1.7. *Presentation of Papers*
- 1.3.1.8. *Liaison to P1363*
- 1.3.1.9. *New Business*
- 1.3.1.10. *Next Meeting Agenda*

1.3.1.11. *Presentation to WG*

1.3.2. Discussion on Proposed Agenda

1.3.2.1. *The task group voted by motion in May to develop answers to document 060 on QoS questions. This needs to be on the agenda*

1.3.2.2. *The task group has also voted to liaison with P1363, and it is not on the agenda.*

1.3.3. Approval of Agenda

1.3.3.1. *Approved by consent without objection*

1.4. Approval of Minutes

1.4.1. No Discussion

1.4.2. Approved by consent without objection

1.5. Policy overview

1.5.1. Approximately 15 new members.

1.5.2. Review of voting rights, attendance book, etc.

1.5.3. Review of key motions

1.6. Schedule Overview

1.6.1. **PAR calls for draft to be put together by November meeting. We are behind schedule, but we have mature proposals that are ready to go. We can make up time that was lost.**

1.6.2. **We are addressing QoS and Security primarily, with other papers on other enhancements, such as DFS, TPC, load balancing, etc.**

1.7. Reorganization of TGe

1.7.1. Sub Groups

1.7.1.1. *Split into three groups for individual technical topics, and then come together to generate a combined report.*

1.7.1.2. *QoS Subgroup (plus misc topics)*

1.7.1.3. *Security and Authentication*

1.7.1.4. *DFS / TPC*

1.7.2. Motion to split Task Group E into three sub groups: 1) QoS and Misc 2) Security and Authentication, 3) DFS / TPC
--

1.7.2.1. <i>Moved Harry Worstell</i>

1.7.2.2. <i>Seconded John</i>

1.7.2.3. <i>Discussion</i>

1.7.2.3.1. <i>This motion is outside the PAR and out of order Bob O'Hara.</i>

1.7.2.3.2. <i>Chair overrules out of order</i>
--

1.7.2.3.3. *Appeal the chair*

1.7.2.3.4. *Discussion*

1.7.2.3.4.1.

1.7.2.3.5. *Call the question – John K*

1.7.2.3.5.1. Question is called - Vote 34:0:7

1.7.2.3.6. *Vote on the appeal – Yes votes support the chair*

1.7.2.3.6.1. Vote 30:2:8. The chair's ruling stands

1.7.2.4. *Discussion continues on main motion*

1.7.2.4.1. *Motion to amend to:*

Motion to split Task Group E into three sub groups: 1) QoS and Misc 2) Security and Authentication.

Some meeting time will be provide for those interested in DFS / TPC to figure out how to best accomplish the goals they have in mind.

1.7.2.4.2. *Amendment acceptable to Mover and Seconder*

1.7.2.4.3. *Discussion on Amendment*

1.7.2.4.3.1. We should split into two groups, not three. The DFS/TPC could be handled in the QoS Group.

1.7.2.4.3.2. In favor of splitting into two motions. We have limited time, we need to move forward. In favor of this motion.

1.7.2.4.3.3. In document 245r1, we already have requirements for DFS / TPC

1.7.2.4.3.4. Call the question Duncan / Harry

1.7.2.4.3.4.1. Vote on calling the question: Passes 34:2:8 question is called

1.7.2.4.4. *Vote on motion to amend:*

1.7.2.4.4.1. passes 14:9:17

1.7.3. Main Motion:

Motion to split Task Group E into sub groups: 1) QoS 2) Security and Authentication.

Some meeting time will be provide for those interested in DFS / TPC to figure out how to best accomplish the goals they have in mind.

1.7.3.1. *Discussion*

1.7.3.1.1. *There is no way the TGe scope of work can be done in a short period of time. We will discuss setting up a study group to deal with DFS/TPC. In favor of this motion*

1.7.3.1.2. *Concern of overlapping session times for those who wish to participate in all of them.*

1.7.3.1.3. *What happens if the sub-groups get done at a different time? This is under one PAR.*

1.7.3.1.4. *Call the question John K / Harry*

1.7.3.1.5. *Called without objection*

1.7.3.2. <i>Vote on motion: Passes 35:0:3</i>

1.7.4. Motion to limit debate on all motions to 15 minutes, except debate on amendments to motions which will be limited to 5 minutes per amendment.

1.7.4.1. *Moved John Kowalski*

1.7.4.2. *Seconded*

1.7.4.3. *Discussion*

1.7.4.3.1. *Opposed to this because these topics need extensive discussion. Is it in appropriate to amend Roberts Rules in this way?*

1.7.4.3.2. *By Roberts Rules, this cannot apply*

1.7.4.4. *Chair will continue with the assumption that this is in order.*

1.7.4.5. *The motion to limit debate is a subsidiary motion, not a main motion.*

1.7.4.6. *There must be a main motion on the floor to bring it up.*

1.7.4.7. *Ruled Out of Order*

1.7.4.8. *Call for the orders of the day*

1.7.5. Ad Hoc Groups under TGe

1.7.5.1. *These sub groups need some working time.*

1.7.5.2. *These will be announced so they can meet*

1.7.5.3. *Review of progress in setting up the simulation framework from Matthew Sherman's ad hoc group*

1.8. Questions on Requirements

1.8.1. Paper 066

1.8.1.1. *Task Group E has never taken any official action.*

1.8.1.2. *Have the questions in document 066 been answered to the group's satisfaction?*

1.8.1.3. *Document 126 was created as answers to the question in document 166.*

1.8.1.4. *Motion that document 126 "Answers to QoS Questions" be accepted as the answers in document 066 "QoS Questions".*

1.8.1.4.1. *There are questions in document 066 and 119.*

1.8.1.4.2. *Chair asks to defer this motion until the group has been able to review these documents.*

1.9. Call for Papers

1.9.1. Do any authors of papers that were submitted last time and not presented want to skip the presentation?

1.9.1.1. *Document 204*

1.9.2. New Papers, or papers not on the list

- 1.9.2.1. *Document 190, Mika, Steve Gray (on TPC)*
- 1.9.2.2. *Document 269, Steve Gray (QoS)*
- 1.9.2.3. *Document 154, Harold (DFS/TPC)*
- 1.9.2.4. *Document 267, Harold (QoS)*
- 1.9.2.5. *Document 292, 293 Jesse (Security)*
- 1.9.2.6. *Document 275, Dave (Security)*
- 1.9.2.7. *Document 254 (submission only, no presentation)
Michael Fischer (QoS)*
- 1.9.2.8. *Document 195r2 Sunghyun (DFS/TPC)*
- 1.9.2.9. *Document 286 Sri (QoS)*
- 1.9.2.10. *Document 271 John (QoS)*
- 1.9.2.11. *Document NNN Duncan (QoS)*
- 1.9.2.12. *Document 270, Greg (DFS/TPC)*

1.10. Questions on Requirements

1.10.1. Motion that document 126 “Answers to QoS Questions” be accepted as the answers in document 066 “QoS Questions”.

- 1.10.1.1. *Moved Greg Parks*
- 1.10.1.2. *Second Raju Gubbi*

1.10.2. Discussion on Motion

- 1.10.2.1. *Does the document 126 answer both document 066 and 119?*
- 1.10.2.2. *119 referred to security questions. 126 is a response to 066.*
- 1.10.2.3. *We still need to answer the questions in 119.*
- 1.10.2.4. *Concern that 126 does not provide answers to all the questions. For example what are the parameters of QoS that cross the service access point?*
- 1.10.2.5. *In the functional requirements document 245, we limit QoS parameters to 802.1pq tags. Speaks in favor of this motion. This document supports what we already ratified.*
- 1.10.2.6. *These questions are not binding on further work we do. The requirements are specified in document 245*
- 1.10.2.7. *The motion in May was to have the task group complete the steps – answer the questions in 066, use the answers to define functional requirements. We need to come up with 802.11e positions that provide answers to these questions.*
- 1.10.2.8. *Suggestion that the motion from May could be withdrawn.*
- 1.10.2.9. *Call the question*
- 1.10.2.10. *Vote on the motion:*

1.10.2.10.1. *Motion passes 20:5:9*

1.10.3. Is there any objection to move on with the presentations at this point?

- 1.10.3.1. *Based on the assumption that these papers might answer the questions.*
- 1.10.3.2. *What about the development of the evaluation criteria and metrics. We should know the criteria and metrics before the proposal presentation.*
- 1.10.3.3. *The group should not go into papers that are not related to requirements.*
- 1.10.3.4. *Have we spent enough time addressing requirements? Can we move to the next step?*
- 1.10.3.5. *Move that we table any discussion of requirements, which are specified in document 245r1.*
 - 1.10.3.5.1. *Cannot move to table unless there is a motion.*
- 1.10.3.6. *Are we going to change the requirements as we go along? If necessary.*
- 1.10.3.7. *Document 245 is the set of requirements we are operating from.*
- 1.10.3.8. *Are we constraining papers to only address those functional requirements?*
- 1.10.3.9. *How many papers address requirements in document 245? Simulation criteria and metrics is the only one to specifically augment or supplement the requirements.*
- 1.10.3.10. *Have we done enough to set baseline requirements? Can we move on to address technical papers?*
- 1.10.3.11. *At the end of the last meeting we were satisfied with the requirements? Why are we discussing this? Lets move on?*

1.10.4. Is there any objection to move on with the presentations of papers

- 1.10.4.1.1. *No Objections*

1.11. Presentation of papers

1.11.1. TGe Metrics and Criteria Ad Hoc Group Summary Report

- 1.11.1.1. *Greg Parks*
- 1.11.1.2. *Document 196r2*
- 1.11.1.3. *Discussion*
 - 1.11.1.3.1. *Are we going to tie this to particular requirements? Yes, that is done in slide 7.*
 - 1.11.1.3.2.

1.12. Adjourn until 6:45PM

2. Monday Evening

2.1. Call to order at 7:00PM

2.2. Presentations of Papers

2.2.1. TGe Metrics and Criteria Ad Hoc Group Summary Report

2.2.1.1. Continued discussion of document 196r2

2.2.1.1.1. *There are more things to differentiate proposals than there are functional requirements.*

2.2.1.1.2. *We don't require any particular topology but they must be specified to be able to do simulations.*

2.2.1.1.3. *Every proposal would go through this simulation matrix, and compare results with the base 802.11 performance.*

2.2.1.1.4. *It was implied that the simulations might have confidential elements within. If the proposal can be disclosed, why not the simulation? We need to adopt a policy that that is not allowed. There may be ballot issues.*

2.2.1.1.5. *Speaks in favor of open-source models for simulation.*

2.2.1.1.6. *Consider creating an evaluation matrix for proposals.*

2.3. Logistics

2.3.1. How many people plan to attend DFS/TPC group, in lieu of other meetings? Approximately 10 people.

2.3.2. How many people plan to attend the security and authentication group? Approximately 10 people.

2.3.3. How many people plan to attend the QoS group? Approximately 34 people.

2.3.4. Assignment for sub groups' output. Starting from Requirements document and Evaluation Criteria. What is a meaningful milestone?

2.3.4.1. *What can the security group accomplish this week? An outline of a converged proposal 802.11, not solving the details.*

2.3.5. Is it time to assign an Editor for TGe?

2.3.5.1. *The editor would determine where and how the proposals are turned into the Standard text.*

2.3.5.2. *The editor is an editor, not an author. The editor makes sure the document is correct and consistent.*

2.3.6. Do we want separate documents or integrated?

2.3.6.1. *We must have a single document that replaces text in the standard, to insure it is internally consistent.*

2.3.6.2. *Various authors must come up with components, and the editor verifies consistency.*

2.3.6.3. *802.3 ab or ac are good examples of techniques for a supplemental standard. They capture the “whats” as well as the “whys”. The “whats” have to be based on the existing text in clauses 7, 9, and 10. New behaviors should be in entirely new clauses or annexes*

2.3.7. How many people in the QoS group consider that they have proposals (addressing all of the requirements that have been specified)?

2.3.7.1. *One proposal (AT&T/Sharewave)*

2.3.8. How many complete proposals do we have for Security?

2.3.8.1. *Three proposals.*

2.4. Presentations of Papers**2.4.1. A Simulation Framework for Evaluation of 802.11 MAC Enhancements**

2.4.1.1. *Document 245*

2.4.1.2. *presented by Matt Sherman, AT&T*

2.4.1.3. *Questions*

2.4.1.3.1. *How do we integrate the two approaches (NS and OpNet)? The group is open to anyone, and welcomes assistance. Wednesday 10:30 to 12 .*

2.4.1.3.2. *Planning on having a tutorial on the simulation framework in November.*

2.4.1.3.3. *We need to decide on the output format – how do we demonstrate the information?*

2.4.1.3.4. *The common output format would allow different analyses from a single simulation run.*

2.4.2. General Discussion

2.4.2.1. *What do we need to do to get on the right path. What is missing?*

2.4.2.2. *How are we going from separate group working back to a single solution?*

2.4.2.3. *Example – fast Ethernet – three different groups worked in parallel, and wrote different chapters.*

2.4.2.4. *Does the work in task group F affect what we do?*

2.4.2.5. *The process is not clear, written down, and not agreed upon by the group. Is there benefit to writing down the process? Perhaps in an Ad Hoc group between meetings?*

2.4.2.6. *Proposals must address at least one functional requirement, not all.*

- 2.4.2.7. *Have we established whether the evaluation criteria are the standard against which proposals are evaluated?*
- 2.4.2.8. *We are still waiting for simulations to compare proposals with what we have already.*
- 2.4.2.9. *We need to deal with how to integrate pieces of proposals that are not complete, and integrate the three subgroups.*
- 2.4.2.10. *The Task Group needs to generate a simple flow-chart to show the process.*

2.4.3. MPEG-2 High Rate Video over 1394 and Implications for 802.11e

- 2.4.3.1. *Document 271*
- 2.4.3.2. *John Kowalski, Sharp*
- 2.4.3.3. *Discussion*
 - 2.4.3.3.1. *What is there in 1394 that requires the mapping be done via 802.1p/q tags? There is none – we need to map the priorities some how.*
 - 2.4.3.3.2. *Is there any end to end QoS signaling? Not sure.*

2.4.4. Final discussion

2.4.5. Chair selection of sub groups

- 2.4.5.1. *Nominate chair people for sub groups tomorrow morning.*
- 2.4.5.2. *Are sub groups empowered to make decisions? Same Task Group voting rules apply.*
- 2.4.5.3. *Security SubGroup*
 - 2.4.5.3.1. *Nomination – Dave Halasz*
 - 2.4.5.3.2. *Any Objection to have Dave Halasz for the chairperson for the Security SubGroup. No objections.*
- 2.4.5.4. *DFS / TPC Group (an ad hoc group sponsored by TGe: all members can vote)*
 - 2.4.5.4.1. *Nomination – Carl Temme*
 - 2.4.5.4.2. *Any Objection to have Carl Temme as the chairperson for the DFS/TPC group.*
- 2.4.5.5. *QoS Group*
- 2.4.5.6. *John hands Chair to Stuart*
 - 2.4.5.6.1. *Stuart Nominates John Fakateselis as the chair of the QoS SubGroup.*
 - 2.4.5.6.2. *John is Chair of SubGroup for QoS by unanimous consent.*

2.4.6. Objectives for week

- 2.4.6.1. *A set of stable evaluation criteria approved (by all of 802.11e)*
- 2.4.6.2. *The group hasn't yet defined any evaluation criteria for security. The security group still has to do that.*
- 2.4.6.3. *Timeline for call for proposal, and a deadline for proposals. We need to get a baseline selected, because there will be follow-up discussion*

2.4.6.3.1. *The call for proposals has been made. The cutoff was November, but we may have to change it.*

2.4.6.4.

2.5. Adjourn

3. Tuesday Morning

3.1. Called to order at 8:10AM

3.2. Review of Subgroup Formation

3.2.1. QoS, Security, DFS/TPC (ad hoc)

3.2.2. Rooms for subgroups

3.2.2.1. *All three subgroups will meet in parallel*

3.2.2.2. *Rooms for today: Schedules at desk*

3.2.2.2.1. *TGe (QoS) – Ballroom 7-8*

3.2.2.2.2. *802.11 Security – Maricopa*

3.2.2.2.3. *802.11 DFS/TPC – ballroom 4*

3.2.3. Review of SubGroup Agendas

3.2.4. **The last session will be all subgroups together as full TGe. Thursday Afternoon 3:30 to 5:30 and Thursday Evening 6:30 to 8:30 will be Full TGe sessions.**

3.3. Break into individual SubGroups

4. Tuesday Morning, QoS Subgroup

4.1. Agenda for presentations

4.1.1. **Harold T, Document 267. 30 minutes**

4.1.2. **Sri, Document 286, 30 minutes**

4.1.3. **Other paper presenters not present.**

4.2. Presentation of Papers

4.2.1. Distribute QoS model for IEEE 802.11

4.2.1.1. *Harold Teunissen, Lucent*

4.2.1.2. *Document 267*

4.2.1.3. *Discussion*

4.2.1.4. *How do you do feedback to application through the MAC SAP? We need to change the SAP.*

4.2.1.5. *The 802 MAC SAP has priority but 802.11 doesn't it. The Standard does use contention or contention free for two priorities.*

4.2.1.6. *There needs to be a separation of admission control at the time of connection and during a connection.*

4.2.1.7. *There may a more fundamental issue – there are some who want something better than the current DCF for priority levels. Others want to have higher level control for end-to-end QoS control. Much like the differences between Diffserv and Intserv. We need to explicitly understand how to serve both groups.*

4.2.2. An IEEE 802.11e Proposal to support efficient MM streaming.

4.2.2.1. *Sri Kandala, Sharp*

4.2.2.2. *Document 286*

4.2.2.3. *Discussion*

4.2.2.3.1. *How does filling unused time help with hidden station? It only deals with stations hidden from other stations?*

4.2.2.3.2. *Has any analysis been done on the variation on contention window in DCF to allow priorities? There is existing literature to indicate it does not work. Analysis is underway, and will be presented next meeting.*

4.2.2.3.3.

4.3. Process to closure

4.3.1. Ad Hoc discussion to bring proposals to closure:

4.3.1.1. *Harry Worstell*

4.3.1.2. *Duncan Kitchen*

4.3.1.3. *Wim Diepstraten*

4.3.1.4. *Harold Teunissen*

4.3.1.5. *Maarten Hoeben*

4.3.1.6. *Greg Parks*

4.3.1.7. *Keith Amman*

4.3.1.8. *John*

4.3.1.9. *Sri*

4.3.1.10. *Michael Fischer*

4.3.1.11. *Jin Meng Ho*

4.3.1.12. *Menzo Wentink*

4.3.1.13. *Zulu*

4.4. Overview of Simulation and Evaluation Criteria

4.4.1. TGe Metrics & Criteria Ad Hoc Group Summary Report

4.4.1.1. *Greg Parks, Sharewave*

4.4.1.2. *Document 196r2*

4.4.1.3. *Discussion*

4.4.1.3.1. *Traffic generator, 4 seconds of overall traffic simulation – is that per station? Opnet allows per station, but we will add a global trace to the environment.*

4.4.1.3.2. *Four seconds may be too short to simulate real MPEG traffic.*

- 4.4.1.3.3. *How much traffic do we need to model to be sure we are within 95% of reality? The problem is how do we model reality. Suggestion is to think of a certain number of packets, but the number is not known.*
- 4.4.1.3.4. *How reliable are the OPnet provided models. There have been problems, but we believe they are fixed. We haven't looked at their IP stack yet.*
- 4.4.1.3.5. *Currently there is no support for handoff and authentication in the OpNet model. The intent is to determine if you can connect under heavy loads. Maintaining QoS in a stream during handoff is another issue.*
- 4.4.1.3.6. *Is there any way to break out retry traffic from first try traffic?*
- 4.4.1.3.7. *We are not really simulating the PHY, just the PHY delays. The goal is to model the MAC.*
- 4.4.1.3.8. *Channel model – an event driven model driven by SNR. Depending on SNR, you can't hear it, it is just noise, or you can hear and decode it.*
- 4.4.1.3.9. *We are not coding fallback because of limited OpNet coders. If anyone wants to add fallback, they are free to do so.*
- 4.4.1.3.10. *Interference model – Markov 2 state model*
- 4.4.1.3.11. *We still need a model for Audio.*
- 4.4.1.3.12. *The Sharp model does go up to 19.68Mbps for MPEG.*
- 4.4.1.3.13. *Is HDTV different from MPEG2? Sharp feels that they are the same, just different rates.*
- 4.4.1.3.14. *We don't have a 1394 stream representation in the simulation model. (Sharp may have a model)*
- 4.4.1.3.15. *Priorities – the current model does not support 8 priorities.*
- 4.4.1.3.16. *We will need to add OpNet coding for 802.11 p/d interface. Proposers will need to add that coding.*
- 4.4.1.3.17. *RSVP is supported in Opnet. They will check on SBM support in OpNet*
- 4.4.1.3.18. *OpNet screens all traffic out of your BSS. Not good to simulate overlap BSS. The channel model may help here.*
- 4.4.1.3.19. *It is not a problem to handle 3 BSSs. The issue is that with more terminals, the slower OpNet runs. It is exponentially slower with added terminals.*
- 4.4.1.3.20. *The adjacent BSS's will see each others traffic, but the outer two will not. So you have overlapped and non-overlapped cases.*
- 4.4.1.3.21. *OpNet determines connection by range. Beyond 300M it will not receive.*
- 4.4.1.3.22. *No issue with Model 1 Node topologies. We need to determine what value is used for k.*
- 4.4.1.3.23. *The authors of the proposal believe that this is a realistic model.*

4.4.1.3.24. *Do we really need 3 BSSs if we don't model handoff? We may have performance issues from synchronization issues between BSSs that we need to model*

4.4.1.4. *Loading.*

4.4.1.4.1. *Is 125% loading necessary? Is the overloading going to impact the high priority traffic?*

4.4.1.4.2. *The question is stability – when ramping up to the overload, what happens? Does it reach a steady state?*

4.4.1.4.3. *Another way to consider it is whether we model burstiness? How long does the overload last?*

4.4.1.4.4. *We have not defined the burstiness of the data as part of the bulk traffic model. We don't have asymmetrical data flows either.*

4.4.1.5. *Loading Models*

4.4.1.5.1. *Do we have any calculation regarding the combined rate of these streams? The models approach the theoretical limits of the 802.11 PHYs. It depends on how the handles station to station.*

4.4.1.5.2. *The dynamic cases might be simplified by modeling AP to station only.*

4.4.1.5.3. *We have not constrained the traffic to be only IP. The bulk traffic is probably IP.*

4.4.1.5.4. *A lot of the current work with audio is using IP. Bulk traffic is intended to represent traffic not associated with a particular application.*

4.4.1.5.5. *The loading model included retransmissions, and lost packets.*

4.4.1.5.6. *We need to measure the ratio of useful information compared to channel utilization.*

4.4.1.5.7. *The traffic source will dominate the size of the traffic, rather than the encapsulation or protocol.*

4.4.2. Wrap up

4.4.2.1. *The group feels that this is a valuable discussion.*

4.4.2.2. *We will continue at 6:30PM*

5. Tuesday Evening QoS SubGroup

5.1. Call to order 6:30PM

5.2. Submissions List Review

5.2.1. Steve, document 269 – available to present

5.2.2. Duncan (tomorrow)

5.2.3. Albert, document 205 (not present)

5.2.4. Sunghyun, document 194, (not present)

5.2.5. Alan, document 161, (not present)

5.3. Presentation of Papers

5.3.1. Performance of Smart Antennas and PCF

5.3.1.1. Steve Gray, Nokia

5.3.1.2. Document 269

5.3.1.3. Discussion

5.3.1.3.1. Are there any other changes required to stations to work with smart antenna APs? The AP would poll multiple stations at the same time. As long as the Smart Antennas work, all the frames get through.

5.3.1.3.2. If you need a way to cause the stations to send a null, RTS CTS or null data with ACK are possible methods

5.3.1.3.3. Can RTS CTS be used within a PCF? There are instances where they are not used, but they are not specifically prohibited. Still the best way is to send a null data frame, which requires an ACK.

5.3.1.3.4. If the antenna is not trained, what is the chance of getting the ACK back?

5.3.1.3.5. What type of array antenna? Rectangular array.

5.3.1.3.6. How does the channel computation account for multipath? The probe gives you multipath delay spread.

5.3.1.3.7. What simulation environment is this? C++ (there is code that simulates the PHY.)

5.3.1.3.8. What is needed at the PHY SAP to support this? The schedulers are inside the AP.

5.3.1.3.9. There is implicit information passed between the PHY and MAC.

5.3.1.3.10. How much beam adaptation time is needed? It would have to be done in a SIFS.

5.3.1.3.11. Does this require multiple RF front ends? No there are ways that can operate in the RF domain.

5.4. Overview of Simulation and Evaluation Criteria

5.4.1. TGe Metrics & Criteria Ad Hoc Group Summary Report

5.4.2. Continuation of discussion of document 196r2

5.4.2.1. Dynamic Loading Models 2

5.4.2.1.1. Does the MAC under test allow the additions of new streams

5.4.2.1.2. There are three things to exercise – The ability to distinguish priorities. (A separate test for that would be better). 2) the establishment of the stream is more important. 3) can you get the bandwidth allocated for the stream

5.4.2.1.3. What is the priority of the authenticate and associate message? It is a DCF function. A good proposal should handle this priority, since it is critical. Each proposal will demonstrate why they can handle this case. It could be demonstrated on paper rather than simulation.

5.4.2.1.4. This may not be an issue. If you are not authenticated or associated, you are not involved with QoS. The station won't be in the QoS Queues. The only issue is making sure there is time on the medium to send the authenticate or associate.

5.4.2.1.5. Consider association QoS in the case of roaming.... It is still a secondary issue. This simulation is looking at the establishment issue.

5.4.2.2. Handoff Loading Models

5.4.2.2.1. Is QoS maintained while a station is handed off to another BSS.

5.4.2.2.2. No one is planning to simulate this.

5.4.2.3. Throughput

5.4.2.3.1. How do you measure the throughput of bulk data.

5.4.2.3.2. Provide an offered load that should generate an expected usage of the channel, and then compare the actual channel usage.

5.4.2.3.3. 4 seconds is too short of a time to make these measurements.

5.4.2.4. Latency

5.4.2.4.1. Is the latency an average value, or over a specific period of time. How is this measured?

5.4.2.4.2. The latency should be measured across the MAC SAP, not the MLME SAP.

5.4.2.4.3. Is it valuable to also simulate the latency above the MAC?

5.4.2.4.4. Within OpNet, we don't just transmit the packet. There is auxiliary information that travels with it through the system for tracking purposes.

5.4.2.5. Jitter

5.4.2.5.1. Why was a log normal distribution chosen? The intent was to have some sort of long tailed distribution.

How can we possibly specify the distribution? We should be measuring the distribution.

5.4.2.5.2. *This is only relevant with respect to how it affects buffer size and latency.*

5.4.2.5.3. *There are IETF definitions of jitter and latency. We should use them.*

5.4.2.5.4. *There is no general belief that it is necessary to control jitter tighter than the latency bound.*

5.4.2.6. *Other considerations*

5.4.2.6.1. *Were covered as part of functional requirements*

5.4.2.7. *Next Steps*

5.4.2.7.1. *We need to tighten up what we are looking at before it becomes a baseline document*

5.4.2.7.2. *Ad Hoc group will continue working on this*

5.4.2.7.3. *Greg Parks and Matt Sherman will continue to work together to keep evaluation criteria and simulation environments aligned.*

5.4.3. 802.11 Simulations group will meet at 10:00 tomorrow

5.5. Outcome of QoS proposal process Ad Hoc team

5.5.1. "TGe Draft Creation Process", document 304 (presented by Duncan Kitchen)

5.5.1.1. *First step is outline of required sections. Tagged according to where they belong*

5.5.1.2. *We then break it into three pieces and delegate to the three subgroups.*

5.5.1.3. *At each meeting the document is brought together in the final full TGe group.*

5.5.1.4. *Votes in the subgroups are ratified by the full TGe, and then by the 802.11 WG*

5.5.1.5. *Editor maintains main document, plus areas of unsatisfied requirements, inconsistencies, and alternate solutions.*

5.5.1.6. *At each meeting, changes are voted in, and incorporated by editor within one month to allow time*

5.5.2. Motion: To recommend that TGe adopt the process outlined in document 00/304 as the draft creation process for TGe.

5.5.2.1. *Moved John,*

5.5.2.2. *Seconded Duncan*

5.5.2.3. *Discussion*

5.5.2.3.1. *We need agreement on major points.*

5.5.2.3.2. *We expect that to happen by the time we get to the baseline document.*

5.5.2.3.3. *There is no defined process to get to the baseline.*

5.5.2.3.4. *This implies the selection of a baseline before we see simulation results.*

- 5.5.2.3.5. *Unless we have something well defined, what do we simulate?*
- 5.5.2.3.6. *There are proposals in a state where they could be simulated. A matrix can be used for comparison as well.*
- 5.5.2.3.7. *What was discussed was the formulation of the baseline in an incremental way. Subsections would be voted on individually. That wouldn't work due to the interrelation. A holistic baseline would be needed.*
- 5.5.2.3.8. *It would be far preferable for those proposals with disagreements to get together before November. If we can't the competing proposals will be compared in November.*
- 5.5.2.3.9. *Are we saying November is the end of new proposals? No. The selection of a baseline is not a part of this motion.*
- 5.5.2.3.10. *What gets put into the baseline does set the direction of the standard from that point on.*
- 5.5.2.3.11. *The important thing is to make progress as rapidly as possible.*
- 5.5.2.3.12. *The authors of the joint proposal have stated that anyone with a proposal or suggestion come to them and they would consider it. Today, those with opposing views worked through their issues and came to this agreement. We believe we can have the baseline by November.*
- 5.5.2.3.13. *The process of reconciling other proposals with the joint proposal continues. The invitation remains open.*
- 5.5.2.3.14. *Call the question*

5.5.2.3.14.1. John, 2nd Harry

5.5.2.3.14.2. Vote: passes 22:0:1

5.5.2.4. *Vote on the main motion: passes 23:0:2*

5.6. Discussion

5.6.1. Nomination of Michael Fischer as QoS Editor

5.6.1.1. *No other nominations*

5.6.2. Motion: To appoint Michael Fischer as QoS subgroup Editor for Task Group E.

5.6.2.1. *Approved by acclamation.*

5.7. Review of the draft process outline

5.7.1. Document 304

5.7.2. Presented by Michael Fischer

5.7.2.1. *Color Codes indicate areas in existing 802.11-1999 standard outline that will need addition by the different subgroups of TGe.*

5.7.2.2.

5.7.3. Discussion

- 5.7.3.1. *Headings that were in two places historically were not deleted. We are free to add any that are needed. We can decide to create a new sub-clause if needed. There may be numbering issues.*

5.7.4. Motion – to recommend that TGe adopt document 306 as a guide for the creation of baseline documents as recommended in the process outlined in document 304.

- 5.7.4.1. *Moved Duncan*
 5.7.4.2. *Second Harry*
 5.7.4.3. *Discussion*

- 5.7.4.3.1. *Isn't this conditional on the previous motion? Yes, we will not forward this to TGe if 304 doesn't pass*
 5.7.4.3.2. *Call the Question – no objection*
 5.7.4.3.3. *Vote on the motion: passes 18:0:2*

5.8. Adjourn**6. Wednesday Morning, QoS Subgroup****6.1. Called to order at 8:00am****6.2. Procedure and status overview****6.2.1. Papers yet to be presented**

- 6.2.1.1. *Albert, document 205 (not present)*
 6.2.1.2. *Alan, document 161, (not present)*
 6.2.1.3. *Duncan, document xxx (not present)*
 6.2.1.4. *Sunghyun, document 194, will present first*

6.3. Presentation of Papers**6.3.1. Collision avoidance mechanisms in 802.11 wireless LAN**

- 6.3.1.1. *Sunghyun Choi, Philips,*
 6.3.1.2. *document 194*
 6.3.1.3. *Discussion*
- 6.3.1.3.1. *why will RTS CTS not update NAV of stations in overlapping BSS? Polling overrules the NAV setting. However the ONAV overrules the polling response.*
- 6.3.1.3.2. *A station will not respond with an ACK or CTS when ONAV is set. Isn't this wasteful since it causes a retransmission? It is a matter of priority of your own BSS versus the other. Either cause a collision in the other BSS, or a retransmission in your own.*
- 6.3.1.3.3. *How can the ONAV from CTS be different than the ONAV for the RTS? The data+cfack would not be*

protected? The intent is to protect the path between them only (take offline)

6.3.1.3.4. In the case of enhanced and legacy BSS's, wouldn't this favor the legacy BSS? It would be better than two legacy BSS's.

6.3.1.3.5. How much additional overhead would the ONAV create?

6.3.1.3.6. What is the definition of overlap? Detect the other, or be disturbed by the other? Can receive frames. This mechanism won't work in the "disturbed but not received" case.

6.3.2. QoS Ad Hoc Group Statement

6.3.2.1. Document 297

6.3.2.2. Duncan Kitchin, Intel

6.3.2.3. Key features required of QoS scheme

6.3.2.3.1. Must use 802 mandated SAP

6.3.2.3.2. Prioritized connectionless services supporting 802.1d/p

6.3.2.3.3. must include DCF enhancements supporting QoS

6.3.2.3.4. connectionless PCF enhancements should be considered as well

6.3.2.4. Discussion

6.3.2.4.1. The mandated SAP is the MAC data SAP, not the other SAPs that are present. Using that is not necessarily the case that the SAP precludes connection oriented services. There is nothing incompatible with using the MAC data SAP compatible with 802.1 and 802.2 with priority code to also do managed QoS, or both.

6.3.2.4.2. Are the management frames viewed as priority 0 (network control)? MAC management would be treated as highest priority. Up for discussion

6.3.2.4.3. Is there a problem with virtual stream approaches to QoS? The desire is for priority control with no prior bandwidth agreement. Does not believe that the MAC should constrain higher layers to use any particular protocol for bandwidth management.

6.3.2.4.4. Priority is not the only parameter in the QoS set. Delay is important also. How does the DCF accommodate bandwidth management.

6.3.2.4.5. A proposal will be made at the November meeting to explain the details.

6.3.2.4.6. We need to know the complexity and performance tradeoffs are between PCF and DCF.

6.3.2.4.7. It has been presented that a layer 3 entity doesn't know how long it will take to send a frame. That proposal was to not have the MAC do anything and leave all QoS to higher layers. The only environment where delay bounded applications could use this scheme are if the queue delays are low, or there are TBD mechanisms to control those delays. Even if there was such a scheme, but it might not meet the 90% balloting without a means to address delay

sensitive requirements. Agrees that delay sensitive apps may require PCF, but on the other hand ad-hoc requires DCF. Would like to see both QoS stations mandated to implement DCF and PCF support. Different features could be implemented in the APs.

6.4. Draft Creation Process

6.4.1. Review of baseline draft creation process

6.4.2. Discussion

6.4.2.1. *If a proposal is made, it should say that it addresses a requirement.*

6.4.2.2. *We will generate a baseline and identify any missing requirements.*

6.4.2.3. *Draft creation process is document 304.*

6.4.3. Creation of baseline

6.4.3.1. *Start with an end to end proposal, and start filtering that proposal.*

6.4.3.2. *Reluctance because selecting a baseline sets a direction, and it would be difficult to change the direction.*

6.4.3.3. *Proposal for process: Everyone that has submitted a paper that implies a proposal or a solution to requirements will have their proposal included in the baseline. When we generate the list of multiple alternatives, we will grandfather existing proposals. Only one vote would be required to enter those options into the baseline.*

6.4.3.4. *We will have a set of papers on the alternatives list, where they will need only a single 75% vote to be integrated.*

6.4.3.5. *Resolving inconsistencies will require a 75% vote.*

6.4.3.6. *We will not create inconsistencies intentionally. The multiple alternatives list is not a part of the baseline.*

6.4.3.7. *We are trying to get a foundation that we can work from, accommodate all existing proposals, and move forward to closure.*

6.4.4. Motion: that the November meeting be the final opportunity for new proposals.

6.4.4.1. <i>Moved Harry</i>

6.4.4.2. <i>Seconded Matt</i>

6.4.4.3. <i>Discussion</i>

6.4.4.3.1. <i>Motion to amend to:</i>

6.4.4.3.2. <i>Motion: that the November meeting be the final opportunity for new proposals from which the baseline will be created.</i>

6.4.4.3.3. <i>Moved Duncan</i>

6.4.4.3.4. <i>Seconded Michael</i>

6.4.4.3.5. <i>Discussion</i>

- 6.4.4.3.5.1. Is this for QoS or TGe. This is QoS.
- 6.4.4.3.5.2. Does this prevent us from starting on the baseline now? This implies that we can't make a selection, but not that we can't establish a baseline.
- 6.4.4.3.5.3. Since this is a QoS meeting, it is already scoped by the group voting on it.
- 6.4.4.3.5.4. This is analogous to the way the MAC foundation was created. The final proposal was created from merging of proposals between meetings.
- 6.4.4.3.5.5. We are trying to encourage all proposals to be brought in by November. We have to put a stake in the ground.
- 6.4.4.3.5.6. Call the question on the amendment. Harry / Ivan. Called without objection.

6.4.4.3.6. *Vote on the amendment: 26:1:0*

6.4.4.4. *Main Motion: that the November meeting be the final opportunity for new proposals from which the baseline will be created.*

6.4.4.5. *Vote on the main motion: 32:0:3*

6.5. **Baseline development**

6.5.1. **Who is willing to work on developing the baseline?**

- 6.5.1.1. *Michael Fischer*
- 6.5.1.2. *Duncan Kitchin*
- 6.5.1.3. *Harry Worstell*
- 6.5.1.4. *Bob Miller*
- 6.5.1.5. *Jason Flaks*
- 6.5.1.6. *Wim*
- 6.5.1.7. *Menzo*
- 6.5.1.8. *Maarten*
- 6.5.1.9. *Thierry*
- 6.5.1.10. *Sri*
- 6.5.1.11. *John K*
- 6.5.1.12. *Vladimir*
- 6.5.1.13. *Naftali*
- 6.5.1.14. *Greg*
- 6.5.1.15. *Jin Meng*
- 6.5.1.16. *Sid*
- 6.5.1.17. *Yossi*
- 6.5.1.18. *Zulu*
- 6.5.1.19. *Keith*
- 6.5.1.20. *Zvi*
- 6.5.1.21. *Roy*

6.5.2. The editor, Michael Fischer, will be the Ad Hoc Chair.

6.5.2.1. Tim Godfrey will be the secretary.

6.5.3. There will be conference calls scheduled.

6.5.4. We should consider an interim session between now and November.

6.6. Adjourn

7. Wednesday Morning (QoS Baseline Development Ad Hoc)

7.1. Overview

7.1.1. Start with the service interface, branch to management path, service deliver path, and underlying channel access mechanisms as a follow on.

7.1.2. Use document 306 as the outline

7.1.3. but not the order

7.1.4. Scope the areas of detailed discussion and compromise. There are not that many.

7.2. Clause 6 – the MAC data SAP

7.2.1. We can dispense with MSDU ordering. If you want ordering, use asynchronous data services. Ordering applies only within a service class.

7.2.1.1. within any service group or class, the MAC does not reorder MSDUs.

7.2.1.2. MSDUs of a given priority are not reordered.

7.2.2. Proposal

7.2.2.1. The MAC data SAP is left parameter-less, and overlay parameters onto the field called Priority.

7.2.2.2. Is it reasonable to extend status values for status and priority? Consensus is Yes.

7.2.2.3. The entire set of 6.2 is left fundamentally unchanged except for priority parameter meeting and possible status information to match.

7.2.3. Discussion

7.2.3.1. It could be argued that every service is async because of the unlicensed frequency band. The issue is that there are a set of proposals that are based on strictly a connectionless model with the scope of .11e with traffic differentiation based on a small set of priorities. There are several proposals based on a managed stream with a per-traffic flow set of parameters derived from higher level bandwidth contracts.

- 7.2.3.2. *The first hard decision is do we include mechanisms of both general sorts in the baseline? We want to move forward. We can't get 75% for either connectionless or connection oriented solutions exclusively.*
- 7.2.3.3. *How do we allow for both in this clause?*
- 7.2.3.4. *The bandwidth allocation in document 120 is performed at a higher layer. It addresses the issue when the problem is congestion, one of the things that is disruptive is communication from higher layers to the MAC. Making more information available about the streams or flows helps because you don't deliver things that are not useful.*
- 7.2.3.5. *Microsoft has a particular set of opinions of what the driver is to provide. We need to provide at least that much information.*
- 7.2.3.6. *Does connection oriented mean bandwidth management by the MAC? There is a difference between providing information to the MAC to make decisions, and having the MAC make those decision autonomously.*
- 7.2.3.7. *Do we need more than traffic class or prioritization?*
Yes
- 7.2.3.8. *Do we need that only a connection oriented MAC (active BW mgmt in the mac) is necessary? Do we need something like RSVP in the MAC? No*
- 7.2.3.9. *This means that there are cases where something more than user priority is needed, but less than full QoS contract management in the MAC is needed.*
- 7.2.3.10. *Duncans definition of connection oriented: An exchange of mgmt messages between entities that set up a connection bandwidth contract. Or you can set up a logical channel to establish a connection, but there is no BW contract.*
- 7.2.3.11. *Flow labeling is a potential term for what is needed. (we need to seek a substitute word, since Flow has other meanings at higher leyers).*
- 7.2.3.12. *In 120, the SBM tells the MAC what the parameters of a BW contract are. The DSBM has to be aware of the link layer.*
- 7.2.3.13. *Flow labeling is needed to differentiate between classes and flows. With DSBM this labeling occurs at higher layers, outside of layer 2.*
- 7.2.3.14. *Where the label is negotiated is the difference*
- 7.2.3.15. *3 bits of labeling is insufficient for some applications.*
- 7.2.3.16. *What are the mechanisms under discussion for using those 3 bits?*
- 7.2.3.17. *If you need more than 8 flows, then a broader space must be implemented in layer 2.*
- 7.2.3.18. *1394 allows more differentiation than 3 bits. To use that paradigm would need aggregation or additional levels.*

- 7.2.3.19. *Do you need to distinguish the flows, or vary the handling of the flows?*
- 7.2.3.20. *If you are going to aggregate flows, it is worth it to negotiate the labeling?*
- 7.2.3.21. *What is the clear need for more than a 3 bit label space at layer 2? If the size of the labeling space is 3 bits per station would there be no votes? Yes.*
- 7.2.3.22. *The idea of VSID is to separate each stream based on QoS requirement.*
- 7.2.3.23. *Aggregation breaks when one flow breaks the contract. It breaks the whole flow.*
- 7.2.3.24. *Suggestion – we have 8 flow classes per pair of entities. Use SA, DA, and priority. There is a mgmt SAP primitive to associate the SA, DA, priority with a flow. For simplicity, this could be mapped to 8 flows per BSS by ignoring SA and DA.*
- 7.2.3.25. *This would require at least 3 levels of performance to be better than what we have today.*

7.2.4. Summary

- 7.2.4.1. *A Tuple of SA, DA, and priority does allow the functionality of the VSID in the joint proposal.*
- 7.2.4.2. *There appears to be a broad hypothesis that 8 broad identifiers are in the right ballpark.*
- 7.2.4.3. *We have a belief that the concept of QoS contract is not a layer 2 issue that we need to support.*
- 7.2.4.4. *We have agreement that we don't want to create multiple MAC data SAPs.*
- 7.2.4.5. *We have consensus that management of mapping is done through the management SAP.*

7.2.5. Discussion

- 7.2.5.1. *Is there a basis to determine if the extra information in the mgmt SAP is being looked at?*
- 7.2.5.2. *We are trying to create a framework to allow people to build what they want. There are some that want to be able to build APs that have 8 global priorities per BSS, and not take it per AP-STA pairing.*
- 7.2.5.3. *In any multi-queue system there is a scheduling entity that is using queue states to decide what to send next. There is no reason why the selection process is different between PCF and DCF.*
- 7.2.5.4. *The areas that still need to be discussed are:*
 - 7.2.5.4.1. *Efficient use of the air interface*
 - 7.2.5.4.2. *schemes for priority access*
 - 7.2.5.4.3. *aggregation*
 - 7.2.5.4.4. *super-poll concepts*
 - 7.2.5.4.5. *DCF prioritization*

- 7.2.5.4.6. *needed management frames*
- 7.2.5.4.7. *BSS overlap mitigation*
- 7.2.5.4.8. *Frequency selection*
- 7.2.5.4.9. *portal to DS, or multiple portals, within a single BSS, may be needed.*
- 7.2.5.4.10. *What is the necessary set of parameters*
- 7.2.5.4.11. *What do the higher layers need from the MAC, and what feedback is provided.*

7.2.6. Next discussion

- 7.2.6.1. *Management SAP primitives and extensions.*

8. Thursday Morning, QoS Subgroup

8.1. Called to order at 8:10AM

8.1.1. Agenda Overview

- 8.1.1.1. *QoS Subgroup Meeting 8:00 – 12:00*
- 8.1.1.2. *Reconvene as TGe at 1:00PM for reports from ad hoc groups*
- 8.1.1.3. *Security group to adopt document structure in document 304.*

8.1.2. Update

- 8.1.2.1. *Request for Interim before November Meeting.*
- 8.1.2.2. *We can make that decision, but we need to give proper notice in advance.*
- 8.1.2.3. *QoS industry analyst and journalist attention. We need to expedite and execute.*
- 8.1.2.4. *We have made ad hoc progress on consolidating towards the baseline.*

8.1.3. New Submissions

- 8.1.3.1. *Document 307 "Joint Proposal Update" Wlm Diepestraten*
- 8.1.3.2. *Document ??? John Kowalski*
- 8.1.3.3. *Document ??? Matt Sherman*

8.2. Presentations of Papers

8.2.1. Joint Proposal R1 Update

- 8.2.1.1. *Wim Diepestraten, Lucent*
- 8.2.1.2. *Document 307*
- 8.2.1.3. *Further refinements of the Joint Proposal*
- 8.2.1.4. *Incorporating new ideas into the proposal from Breezecom and Intersil.*
- 8.2.1.5. *Willing to incorporate DCF mechanisms into the proposal to come to a baseline proposal.*
- 8.2.1.6. *Consensus by November meeting*

- 8.2.1.7. *Sub-presentation by Breezecom*
- 8.2.1.8. *Sub-presentation by NWN/Intersil (traffic classes)*
 - 8.2.1.8.1. *Joint proposal now supports traffic classes*
 - 8.2.1.8.2. *VSIDs are now internal to layer 2.*
- 8.2.1.9. *Extension of VSID numbering to support traffic classes and VSID modes*
- 8.2.1.10. *Discussion*
 - 8.2.1.10.1. *Will there be any ambiguity of traffic class between AP and STA? Using RSVP and SBM it is clear because you have a contract number. Or you could send them over the air as the VSupdate element.*
 - 8.2.1.10.2. *Are retry delay and poll delay new parameters? No, they were there in the original joint proposal.*
 - 8.2.1.10.3. *We can do aggregation of multiple MSDUs, but there is no support for aggregating to multiple destinations.*
 - 8.2.1.10.4. *Concatenating the AID to the TC makes no assumptions as to the polling order? Correct.*
 - 8.2.1.10.5. *How is the 8 priority traffic class mapped onto stream requirements? Is there a fixed relation between those priorities and QoS Parameters? The proposal does not prescribe the behavior of a traffic class. It is only used as a label to identify a flow in the system.*
 - 8.2.1.10.6. *Have there been updates to the FEC headers and payloads? Is the FEC for 2.4 compatible for 5GHz? There isn't a specific solution for that yet.*
 - 8.2.1.10.7. *RSVP sets up the flows, and maps to a 3 bit TC, but how do you agree on the mapping? In Winsock 2, the application RSVP in the host. An RSVP acknowledgement can overrule with a new mapping if it desires.*

8.3. Ad Hoc QoS Baseline

8.3.1. Review of Status

- 8.3.1.1. *Discussion was based on the boundaries of the MAC data SAP.*
- 8.3.1.2. *This brought us to agreement on what goes into the baseline, and the basic functionality.*
- 8.3.1.3. *A general consensus was reached that a 3 bit flow tag, in the context of a SA DA pair, was adequate to represent QoS levels across that link.*
- 8.3.1.4. *The MAC data SAP can then be identical for Traffic Class scenarios, priority only scenarios, and QoS Parameter based scenarios.*
- 8.3.1.5. *This approach can avoid the need for a floor debate between multiple large proposals*
- 8.3.1.6. *Discussion*
 - 8.3.1.6.1. *Anyone has brought proposals has been incorporated or invited to participate. We have continued to seek input from new proposals. We now have everyone known involved in participating in this proposal.*

8.3.1.6.2.

8.3.2. QoS Baseline Development

8.3.2.1. *Take the boundaries that were agreeable yesterday as a working hypothesis, and review the outline to see what is still missing.*

8.3.2.2. *It should be possible to achieve the bulk of what we are wanting to do with less mechanism by taking advantage of the 8 bilateral labels concept.*

8.3.2.3. *If we don't find some unmet requirement with that hypothesis, it becomes possible to begin discussing the remaining areas of conflict, or actually drafting text.*

8.3.2.4. Discussion

8.3.2.4.1. *Wasn't it necessary to limit the labels to 8 in order to keep the MAC SAP unchanged? No, the MAC SAP is unchanged in the majority of proposals.*

8.3.2.4.2. *The 802.0 view of the MAC is that it provides an unack datagram style link. MaUnitdata.ack is only providing the response to the submission of the request, not the ultimate transfer of the MSDU.*

8.3.2.4.3. *Order would be maintained within a labeled flow.*

8.3.2.4.4. *It is not the intent of the .indication to indicate successful transmission.*

8.3.2.5. Open Issue:

8.3.2.5.1. *The undeliverable indication tells you if an MSDU cannot be delivered, but doesn't say which one it was if they were re-ordered.*

8.3.2.5.2. *There may be a need for some sort of parameter (.11 specific) to indicate which particular MSDU was undeliverable.*

8.3.2.5.3. *This is noted for later consideration.*

8.3.2.6. Discussion

8.3.2.6.1. *If WDS frames are used, the limit is 8 flows per end address pairing.*

8.3.2.6.2. *If a number of streams with the same class of service are mixed together, how do insure a particular stream meets its QoS parameters? This may not be appropriate for normative text. We probably will not mandate how the scheduling function works.*

8.3.2.6.3. *A single field indicates virtual streams or priorities. What parts of the system understand whether the field represents a priority or a stream ID? The joint proposal does that, it was discussed in the presentation. VSIDs assigned by the MAC are derivative, not causal. If we start with the outline, we have clause 6 with 8 priorities. Side entities, using the MLME SAP can assign the meanings and priorities without ambiguity at the MAC data SAP. The field means only 1 thing.*

8.3.2.6.4. *The question is "do the number of degrees of separation (groups) between a particular SA and DA*

- exceed 7 for a broad enough group of applications to make a different solution necessary.
- 8.3.2.7. *Straw Poll – All in favor of attempting to explore the implications of a baseline based on a 3 bit identifier per SA DA pair*
- 8.3.2.7.1. *10 for, 5 against, 18 abstain*
- 8.3.2.8. *We are discussing the baseline, which is currently an outline with headings.*
- 8.3.2.9. *The next step is to take it a level deeper. Under those things we have to change, lets fill in the outline in more depth*
- 8.3.2.10. *The outline is more of an ownership of areas by subgroups in TGe. It is not a place to integrate new ideas. We should start with an existing proposal. 120r1 could be a starting point for modifying.*
- 8.3.2.11. *It takes a very long time to take comprehensive proposals and select from them. We need a baseline to evaluate performance and to compare. We need to proceed toward having a baseline by November. We believed the differences were minor so we could make a baseline draft covering the areas in agreement. It doesn't address performance evaluation.*
- 8.3.2.12. *We could use 120r1 as a baseline, or wait until the next teleconference*
- 8.3.2.13. *Central to the joint proposal is the VSID mechanism allowing 4K streams. That is not realistic, but possible. We need to seek compromise around DCF and PCF solutions, and limits around the 802.11 limits (8). We want to avoid a polarized pair of complete proposals.*
- 8.3.2.14. *We need to take the Joint Proposal and partition it into agreeable and contentious sections.*
- 8.3.2.15. *We will proceed on that given available time.*

8.4. Presentation of Papers

8.4.1. A Request for Guidance from TGe QoS group on Simulation Models

- 8.4.1.1. *Matt Sherman*
- 8.4.1.2. *Document 319*
- 8.4.1.3. *Do we allow direct STA-STA transfers in PCF (reference: document 254)*
- 8.4.1.4. *Lack of clarity issue with NAV setting in adjacent BSS scenarios. BSS Overlap Mitigation will address this. Simulation environment will have limited coverage for this case*
- 8.4.1.5. *Reset of NAV at CF-end. Questionable behavior based on whether it is from your own BSS or another BSS. Coded in sim environment based on ignoring CF-end from*

other BSS.s. We may need an option to select whether to ignore or not.

- 8.4.1.6. *SIFS deference – For an ACK the standard says to ignore CCA for the SIFS time. There is really no CCA period in a SIFS. The model will not defer to CCA during a SIFS*

8.4.2. Market Requirements for Consumer Electronics

8.4.2.1. *Document 322*

8.4.2.2. *John Kowalski, Sharp Corp*

8.4.2.3. *TGe market – narrowband internet applications; Wireless AV links; Broadband Internet applications.*

8.4.2.4. *Required error rates, latency, and bandwidth efficiency.*

8.4.2.5. *Discussion*

8.4.2.5.1. *If 802.11e meets the market requirement, and does it quickly, what is the probability that 802.11 will be adopted over proprietary standards? We have the momentum and functionality to achieve this.*

8.5. Baseline Development

8.5.1. Plans for interim meeting

8.5.1.1. *AT&T is willing to host in the NJ area. Proposing Oct 24-25, Tuesday, Wednesday.*

8.5.1.2. *Motion – to announce an Ad Hoc 802.11 TGe QoS meeting (location TBD) for October 24 – 25 with a single subject of working on the Baseline QoS proposal for the November Plenary.*

8.5.1.2.1. *John*

8.5.1.2.2. *Sri*

8.5.1.2.3. *Discussion*

8.5.1.2.3.1. *Possible conflicts – ITU, WECA, Editor availability, 5GHz meeting Oct 28.*

8.5.1.2.3.2. *Without the Editor it would be a problem.*

8.5.1.2.3.3. *Possibility to have Interim in San Antonio*

8.5.1.2.3.4. *An agenda should be published in advance.*

8.5.1.2.3.5. *What is the intent of this meeting? It is an Ad Hoc meeting similar to this one. We will try to get consensus.*

8.5.1.2.4. *Vote on the Motion: passes 17:0:6*

8.5.2. Process Review

8.5.2.1. *We start generating the baseline, and if any contentious areas are found, they are put on the side lists as we outlined in the procedure document.*

8.5.3. Proposal for Process

8.5.3.1. *Needed process for deferring contentious items – we will defer after 10 minutes of discussion.*

- 8.5.3.2. *Before the break we were going to identify areas of agreement and disagreement by using the outline document 306. Based on 8 labels of flows between pairs of addresses. Whatever QoS Parameters are used, there aren't more than 8 of them between any SA DA pairs.*
- 8.5.3.3. *Straw Poll – To proceed by looking at the outline and identifying areas of agreement and consensus with the boundary of 8 labels: 14 for :0 against:10 abstain*

8.6. Processing of outline document 306

8.6.1. Skip 2, 3, 4, and 5

8.6.2. Clause 5.8 – ISO Reference Model

- 8.6.2.1. *Figure 11 – ISO reference model. We could leave this unmodified. The MAC Data SAP can convey the priority parameter.*
- 8.6.2.2. *Does anyone feel we need to change the reference model?*
 - 8.6.2.2.1. *Could the QoS parameters be communicated through the existing SAP? Yes, the Joint Proposal has done that.*
 - 8.6.2.2.2. *The reference model has two ports, data and MGMT*
- 8.6.2.3. *Open issue – some people don't know if there is a need for an additional SAP.*
- 8.6.2.4. *We are discussing strictly the reference model and the SAPs.*

8.6.3. Clause 6 – the MAC Data SAP

- 8.6.3.1. *The introduction talks about existing services. We subdivide the MAC data service into an Async Data service and QoS service. It could still be considered all async, to better fit 802.0.*
- 8.6.3.2. *Proposal – remove the word “Asynchronous” to have a single data service*
- 8.6.3.3. *Discussion*
 - 8.6.3.3.1. *As long as we are able to provide various services.*
 - 8.6.3.3.2. *Yes, that is the intent. Any services would qualify.*
- 8.6.3.4. *Security services are not our issue.*
- 8.6.3.5. *We are restricting the strictly ordered service to today's Async service. The data service allows reordering between flows and between QoS and “unknown QoS” (including Asynchronous) traffic as a means of implementing QoS. MSDUs will not be reordered within each labeled flow.*
- 8.6.3.6. *Suggestion that the QoS Editor provide a glossary for specially defined words and terms. (accepted)*
- 8.6.3.7. *Nobody is using strictly ordered service classes.*

8.6.4. Clause 6.2 – detailed service specifications

- 8.6.4.1. *MA-UNITDATA.request only changes as is done in every proposal: we put the label information, on the Priority Parameter, as a new alternative to the existing Contention and Contention Free. Non-QoS values map to Contention.*
- 8.6.4.2. *Is there anything else that belongs here?*
- 8.6.4.2.1. *Nothing suggested.*
- 8.6.4.3. *Is there anything else on the priority parameter?*
- 8.6.4.3.1. *No*
- 8.6.4.4. *Area of contention – is a new service class needed? It would have to be restricted to only QoS or it would have to be two classes to maintain strict order.*
- 8.6.4.5.

9. Thursday Afternoon, Full TGe session**9.1. Called to order at 1:00PM****9.2. Agenda Overview**

- 9.2.1. **QoS Report**
- 9.2.2. **Security Report**
- 9.2.3. **DFS/TPC Study Group**

9.3. Agenda approval

- 9.3.1. **Adopted without objections**

9.4. Reports from SubGroups**9.4.1. QoS Subgroup**

- 9.4.1.1. *Technical Overview*
- 9.4.1.2. *Process Overview*
- 9.4.1.3. *Review of motions*

9.4.1.3.1. <i>Motion: That TGe adopt the process outlined in document 00/304 as the draft creation process for TGe.</i>

- | |
|---|
| 9.4.1.3.1.1. <i>Moved Tim</i> |
| 9.4.1.3.1.2. <i>Seconded Keith</i> |
| 9.4.1.3.1.3. <i>Vote: Passes 29:0:2</i> |

9.4.1.3.2. <i>Motion: That TGe adopt document 306 as a guide for the creation of baseline documents as recommended in the process outlined in document 304.</i>

- | |
|---|
| 9.4.1.3.2.1. <i>Moved Tim</i> |
| 9.4.1.3.2.2. <i>Second Michael</i> |
| 9.4.1.3.2.3. <i>Vote: Passes 27:0:1</i> |

9.4.1.3.3. *Motion: To announce an Ad Hoc 802.11 TGe QoS meeting (location TBD) for October 24 – 25 with a single subject of working on the Baseline QoS proposal for the November Plenary.*

9.4.1.3.3.1. Moved Tim
 9.4.1.3.3.2. Second John K
 9.4.1.3.3.3. Vote: Passes 22:1:8

9.4.2. TGe editor

- 9.4.2.1. *Harry nominates Michael Fischer*
- 9.4.2.2. *Greg Parks volunteers, defers to Michael*
- 9.4.2.3. *Michael is appointed as TGe Editor*

9.4.3. Simulation Subgroup Report

- 9.4.3.1. *SUBMISSION--- Simulation Framework Progress Update --- Mathew Sherman*

9.4.4. Security Subgroup Status

Submission Security Subgroup Status --- Dave Halasz doc #325

9.4.5. Straw Poll

- 9.4.5.1. *Chairman takes straw poll*
- 9.4.5.2. *Question: "Are members satisfied with the progress of the group?"*
- 9.4.5.3. *Result: 32/2/6 (Y/N/A)*

9.4.6. Euro Compliance for 802.11a Study Group

- 9.4.6.1. *Submission: DFS/TPC Status (doc #303) --- Carl Temme*
- 9.4.6.2. *Planning a motion to approve PAR and 5 Criteria for a Study Group.*
- 9.4.6.3. *TGe Secretary to modify TGe Requirements Document 245r1 to remove requirements regarding DFS / TPC and re-submit as 245r2.*

9.5. Break to subgroups

9.5.1. Is there any session to bring back work to? Next meeting (November).

9.5.2. Do we want to re-convene later as full TGe

9.5.3. Is there any objection for full TGe at 8:00PM

- 9.5.3.1. *No Objection*

9.5.4. Recess TGe until 8:00PM for subgroups.

10. Thursday Afternoon QoS Baseline Ad Hoc Group.

10.1. Processing of outline document 306

10.1.1. Terminology

10.1.1.1. Referring to Traffic Class contrary to the usage in 802.1 should be carefully considered.

10.1.1.2. Refer to 802.1d clause 6.3 regarding aspects of QoS.

10.1.2. Clause 6.2 – detailed service specifications

10.1.2.1. Open Issue – there is no way to identify a specific MSDU that is undeliverable.

10.1.3. Clause 7.1

10.1.3.1. Discussion

10.1.3.1.1. What about FEC? The requirements don't specify that it has to be in the MAC

10.1.3.1.2. Can we just pass up error frames and handle FEC elsewhere? Not through the MAC data SAP. A frame that has an error may not be reported through the data SAP, but may be reported through a management SAP.

10.1.3.2. Open Issue – FEC

10.1.4. Clause 7.1.3.1.2 – Frame Type and Subtype

10.1.4.1. Paste in types from Joint Proposal as a straw man.

10.1.4.2. Highlight out types supporting ancillary functions.

10.1.4.3. Flag VS_update for a potential name change.

10.1.4.4. Discussion

10.1.4.4.1. Should there be an enhanced delivery mechanism?

10.1.4.4.2. We need to enhance PCF to improve utilization of airtime.

10.1.4.4.3. To get the baseline accepted, we cannot select solutions.

10.1.4.4.4. It is not worth doing a baseline that doesn't have at least baseline functionality, with general consensus. That does include mechanisms in areas we can agree on. Otherwise it is a refined requirements document.

10.1.4.4.5. The central concept is "transmission opportunity" a Poll is a right to use an amount of time on the medium. Local decisions can be made.

10.1.4.4.6. There is no suggestion that DCF is not allowed to be improved. The particular frame types here are used in the CFP.

10.1.4.4.7. The amount of time required for CFP vs CP is not being addressed here.

10.1.4.5. Flag CFP related frames with a comment.

- 10.1.5. Clause 7.1.3.1.4 – From DS Field**
- 10.1.5.1. *Fix the conflicting provisions described in document 254.*
 - 10.1.5.2. *Allow direct STA to STA while in PCF. Why use 2X bandwidth to achieve point to point communication.*
- 10.1.6. Clause 7.1.3.2 – Duration ID field**
- 10.1.6.1. *The existing definition has no useful information during the CFP.*
 - 10.1.6.2. *New uses for reserved codes for Duration ID field may be necessary for enhancements.*
 - 10.1.6.3. *The use of the 3 bit field allows the removal of some other frame types and move that information into the Duration ID field.*
- 10.1.7. Teleconference – a week from next Wednesday, Oct 4th, at Noon Eastern Time.**
- 10.1.7.1. *Accepted without objection*
 - 10.1.7.2. *Planned Participants estimate – 13*
- 10.1.8. Clause 7.1.3.4 Sequence Control Field**
- 10.1.8.1. *There needs to be a seq number set fir each label value*
- 10.1.9. Clause 7.1.3.5 – Frame Body**
- 10.1.9.1. *Open Issue: Is anyone using the full length of 2304? Could we reduce the maximum to closer to 1500?*
- 10.1.10. Clause 7.2.3.1 – Beacon Frame Format**
- 10.1.10.1. *It is inevitable that we will need to add elements to the beacon frame format.*
- 10.1.11. Clause 7.2.3.4 - Association.**
- 10.1.11.1. *There will be new capabilities in the capabilities field, but the frame format itself shouldn't need to change.*
 - 10.1.11.2. *Authentication can be eliminated, but not association.*
- 10.1.12. Clause 7.3.1.4– Capability**
- 10.1.12.1. *There will need to be extended capability bits. It looks reasonable to add a capability extension bit for future use also.*
 - 10.1.12.2.
- 10.1.13. Clause 7.3.2.9 – QBSS load element**
- 10.1.13.1. *Definite support for this.*
 - 10.1.13.2. *Preference to call this “load indication element”*
- 10.1.14. Clause 7.3.2.10 – QoS Parameter Set**
- 10.1.14.1. *Objective – to freeze this list by the October teleconference.*
 - 10.1.14.2. *We could use the 802 reflector, or a more restricted mailing list.*

10.1.14.2.1. *Who would provide a reflector, or should we use personal mailing lists? No volunteers for a reflector.*

10.1.14.2.2. *We will start the discussion on the reflector, and Harry will set up a document area for larger files.*

11. Thursday Evening, TGe full session

11.1. Meeting called to order

11.1.1. J Zyren acting as secretary in absence of T Godfrey

11.2. Update on Chair persons meeting --- J Fakatselis

11.3. Subgroup Updates

11.3.1. QoS Subgroup update – Michael Fischer

11.3.1.1. Motion: TGe request 802.11 announce occurrence of weekly QoS Ad Hoc Subgroup telecons. First telecon to start 12:30 EDT, Oct 4, 2000.
--

11.3.1.1.1. <i>Moved: M. Fischer</i>

11.3.1.1.2. <i>Second: Harry Worstell</i>

11.3.1.1.3. <i>Motion passes 26-0-2</i>

11.3.2. Security Subgroup Update -- D Halasz

11.3.2.1. *No new business*

11.3.3. SMa Study Subgroup – Carl Temme

11.4. Motion to Adjourn -- J Fakatselis

11.4.1. No objection to adjourn

11.5. Meeting Adjourned

**IEEE P802.11
Wireless LANs**

TGg Minutes for September 2000 Interim Meeting

Date: September 2000
Author: Matthew B. Shoemake
TGg Chairperson
shoemake@ti.com

September 21, 2000

We are now TGg.

Chair will still be Matthew B. Shoemake per vote of 802.11 WG at July 2000 session in La Jolla, CA.

At start of meeting, count of 802.11 voting members in the room is taken at 8.

Discussion of agenda

Mark Webster requested clarification of selection procedure and functional requirements, "Is FCC part of selection procedure? Doesn't seem to be in there."

Agenda modified.

Vote on approval of agenda passes 14-0-0

Discussed what number of voting members is necessary to have a quorum in the task group. Chair will investigate and report.

Agenda Item 1: Discuss liason with FCC and other regulatory agencies

- Discussion took place
- Presentation by Jim Zyren 00/323
- Discussion took place on Jim's submission

Motion:

The TGg and Ad Hoc Regulatory Group jointly schedule a telephone conference call with the OET at the FCC for the November meeting to obtain FCC perspectives on the *processing gain* issue and to schedule conference calls of TGg and Ad Hoc Reg. to determine the agenda for the FCC conference call.

Moved by Jim Zyren. Seconded by Jan Boer.

Motion to amend:

Moved by Chris Heegard. Seconded by Juha Heiskala.

Discussion.

Amendment withdrawn by unanimous consent.

Motion to amend:

Moved by Jim Zyren. Seconded by Carl Andren.

Motion amended by unanimous consent to:

The TGg and Ad Hoc Regulatory Group jointly schedule a telephone conference call with the OET at the FCC for the November meeting to obtain FCC perspectives on the *processing gain* and other relevant issues and to schedule conference calls of TGg and Ad Hoc Reg. to determine the agenda for the FCC conference call. The TGg requests participation of the 802.11 WG chairperson in these meetings.

Motion passes 13-0-2

Agenda Item #2 - Selection Procedure, Functional Requirements, and Comparison Criteria

Chair asks for number of voters in the room. There are 13 voters in the room. Chair declares recess to allow more voting members to join the meeting.

Recess ends.

Motion to adopt documents 209r3, 210r4 and 211r9 as the official, TGg version of the Selection Procedure, Functional Requirements, and Comparison Criteria, respectively.

Moved by Carl Andren. Seconded by Andre Martin.

Motion passes 20-0-1.

Motion:

Move that the TGg chairperson issue an open Call for Proposals. The Call for Proposals shall include a notification deadline of 11:59PM EST, Monday, October 30, 2000 and shall include a deadline for submissions related to the proposals of 11:59PM EST, Monday, November 6, 2000.

Moved by Mark Webster. Seconded by Ivan Reede.

Motion passes 18-0-0.

Agenda -- New Business

Discuss liasons with other groups.

Motion:

Move to direct the TGg chair to further investigate liasion with ISO, IEEE SCC34 and IEC TC 106.

Motion made by Iven Reede. Seconded by Juha Heiskala.

Motion passes 14-0-3.

Agenda -- New submissions

Submission presented by Mark Webster and Karen Halford (doc. 00/283)

Adjourn.