Minutes of 802.16 Session #3 [Approved]

An Interim Meeting of the IEEE 802.16
Working Group on Broadband Wireless Access
Regal Harvest House, Boulder, Colorado, U.S.

13 to 17 September, 1999

1.   Monday, 13 September, 1999

1.1.   Opening Plenary

Opening of Meeting

13:14

Roger Marks, 802.16 Chairman, called the meeting to order. (The opening presentation is in Appendix A).

Everyone did self-introductions. There were about 24 people in the room.

The agenda was presented. There was some discussion. The agenda (Appendix B) was approved with no objections or changes.

The schedule for the week was discussed (Appendix C). No comments were made.

Announcements

For this meeting, there is an $80 Registration fee. Pay the fee at the front desk. Fill out the form at the front desk.

The attendance book was introduced by Scott Marin, 802.16 Secretary. The secretary instructed attendees to please sign at every session, e.g. morning, afternoon, and evening, and initiated circulation of the attendance book. (Attendance is recorded in Appendix I).

Membership rights were discussed.

The next meeting, Session #4, will be 8-12 November in Kauai, HI.

The session #5 meeting is tentatively set for Jan 10-14, 2000. 802.16 has been invited by 802.11 and 802.15 to hold the meeting in Israel. 801.16 has also been invited to Dallas by Leland Langston. The plan is to resolve the meeting location at plenary meeting later this week.

The flash RAM disk was circulated with the 802.16 Web Page, e-mail reflector archives, and Adobe Reader Ver 4. The flash RAM is the method used for document circulation at the meeting. No hardcopies are provided.

Approval of Minutes

Approval of the minutes from prior meetings was delayed until Friday, 9/17/99.

Roger Marks reminded attendees of the individual versus company perspective at IEEE 802 meetings. He also reminded the group of issues with legal and antitrust laws and the IEEE Patent Policy.

Reports

Chair's Status Report

(Roger Marks' status report is in Appendix D)

802.16 has 106 voting members.

The IEEE is expected to approve the 802.16.2 Coexistence PAR on September 9, 1999, The only comment received from IEEE was that the completion date is too optimistic.

The request to change the designation of the Interoperability task group from 802.16 to 802.16.1 was ruled out of order at Montreal 802 executive committee meeting due to the lateness of the request. The change request will be resubmitted at the Hawaii meeting. Other changes can be submitted also.

At the Denver meeting, the small surplus from prior meetings was spent. The IEEE MTT society subsidized a slight shortfall for 802.16.

The RAWCON meeting held on 14 August 99 was excellent.

Concerning publicity, the IEEE Spectrum editor overlooked 802.16 on recent Fixed Wireless article, which is to be published. Roger plans to submit a follow-up article.

Liaison Reports

The ITU-R JRG8A-9B report was delayed pending José Costa's arrival.

Task Group Reports

Coexistence

Leland Langston, chairman of the coexistence task group, commented that a topical outline has been on the web site (document 802.16cc-99/11). Nine recent contributions have been received. The draft agenda has been circulated. Howard Sandler will present on Tuesday afternoon and evening. Reza Arefi's presentation will move to Monday afternoon.

Charge to Task Groups

Roger Marks charged each task group to submit the following items at closing plenary: a project time-line including the plan for each meeting through the completion of the PAR, a detailed proposal evaluation plan, and a call for contributions.

Task Group Reports (continued)

System Requirements

George Fishel, chairman of the System Requirements Task Group, explained that the group met in Denver, Aug 4-6. The meeting was officially designated as 802.16 session #2 and qualified as an interim meeting. The attendees worked on about 150 comments submitted via e-mail. Brian Petry, the system requirement editor, had compiled comments into document IEEE 802.16s0-99/3 and many comments were resolved during the meeting. Because some comments were contentious—particularly on the QoS and vocabulary topics—the group formed two sub-committees: QoS, chaired by Jim Mollenauer, and Vocabulary, chaired by José Costa. Draft 4 is now out and 144 comments had been received by the end of August deadline. The group is developing an online comment resolution process. Brian Petry will compile the comments into Draft 5.

Jim Mollenauer, chair of QoS sub-committee, reported that some (but not many) contributions had been received. He also stressed the importance of getting the system requirements behind us.

George Fishel stated a goal to have a written vote on system requirements document to go out after the Hawaii meeting. Roger Marks requested that the System Requirements group vote on a process for e-mail resolution of comments.

MAC Task Group

Lou Olsen, acting chairman of the MAC Task Group, reported that no submissions to the call for contributions had been received to date.

PHY Group

Jay Klein, chairman of the PHY task group, reported that two contributions had been received.

Ad Hoc Committee

Patent committee

No report.

IF Ad Hoc

Jack Van der Star commented that the committee was just getting organised.

Rules Committee

Roger Marks is working with Gene Robinson on a set of rules. Roger Marks commented that the rules will generally follow 802.3 rules, have an openness principle, rely on document templates, and dis-allow company logo on documents because the logo appears too commercial.

Lou Olsen asked for comments on the timeline. Roger Marks commented that draft documents need to be done at the end of the Sept 2000 meeting so the subsequent voting, approval, and other issues can follow on schedule with the PAR dates.

14:30

Motion 1, George Fishel, 2nd Jack Van der Star, to adjourn until the Wed. (9/15/99) plenary

Motion approved without objection.

20 min break, return to separate MAC and Coexistence sessions.

2.   Tuesday, 14 September, 1999

The MAC and Coexistence task groups met separately. The IF Interface Ad Hoc met in the evening.

3.   Wednesday, 15 September, 1999

The MAC, Coexistence, and PHY task groups met separately.

3.2.   Draft 802.16 Timeline

8:10

MAC Task Group

During MAC meeting time, while coexistence met separately, and with about 25 people present, Roger Marks discussed 802.16 timeline through completion of the standard (Appendix F). The purpose of the discussion was to get preliminary feedback prior to presenting the draft at the plenary.

Straw Poll: Who plans to submit MAC and PHY proposals (abstracts) at the November Meeting?

Mac 13

PHY 10

3.3.   Wednesday Plenary

Announcements

17:05

Call to order by Roger Marks. Roger Marks presented the agenda (Appendix E), and the agenda was approved without objection.

Roger Marks announced the meeting plans for the rest of week

On 9/16 the PHY Task Group will meet at 8:00a in the Millennium Room.

On 9/17 the System Requirements Task Group will meet at 8:00a in the Board Boom.

Task Group Reports

Coexistence Task Group

Leland Langston reported good progress on an outline and Milestone Plan. Erol Yurtkuran presented the draft Milestone Plan (Appendix H).

Motion 2: Erol Yurtkuran, no 2nd required, to accept the proposed milestones plan.

Approved without objection.

Erol Yurtkuran discussed the outline for the Coexistence Practice document. All contributions, including those submitted to the IEEE Study Group on Broadband Wireless Access, will be used as input text, i.e. Study Group contributions don't need to be resubmitted.

MAC Task Group

Lou Olsen introduced the Air Interface Specification Outline, call for contributions including evaluation criteria, and MAC scoring process. He commented that the task group unanimously approved the MAC group process. Roger Marks asked that the process become an 802.16.1 wide process.

Motion 3, Jim Mollenauer, 2nd not required, for 802.16 to accept the scoring process proposed by the MAC task group

During discussion Roger Marks suggested that the documents be an input to the 802.16 scoring process. Jim Mollenauer withdrew the motion.

Committee Reports

IDU/ODU (Inter-facility Interface) Sub-Committee

Jack Van der Star reported that a lively discussion had been held the previous night. There were many diverse views about whether or not to form a study group. He expected to request written comments before the Hawaii meeting and to compile the comments into a document for consideration at the Hawaii meeting. He noted that the ad hoc committee will expire after session #4.

Task Group Reports (Continued)

PHY Task Group

Jay Klein reported that the PHY group was working on similar documents and criteria to the MAC group. He expected a big day tomorrow to finalise the details.

802.16.1 Proposal Scoring

Deferred to closing plenary.

Topics for Closing Plenary

Roger Marks presented a draft agenda for Friday's Plenary. He presented a draft 802.16.1 Timeline (Appendix F) to apply to MAC and PHY jointly. He indicated that a scoring process was being developed. He indicated that he was initiating a new process to issue calls for contributions prior to leaving a meeting. Roger discussed the draft agenda for the Hawaii meeting.

17:55

Motion 4: Roger Marks asked to adjourn without objection

No objection

4.   Thursday, 16 September, 1999

The PHY, System Requirements QoS sub-committee, and the System Requirements Terminology Sub Committee meet separately.

5.   Friday, 17 September, 1999

The System Requirements Task Group met until 10:00 a.m.

5.4.   Closing Plenary

Announcements

10:25

Roger Marks called the meeting to order. (The presentation is in Appendix G).

The agenda was presented and approved without objection.

Roger Marks noted that the current meeting (Boulder 9/99) does not have 53 members present and; therefore, a quorum is not present.

Roger Marks presented the letter ballot rules and pointed out that membership may be lost if two out of three letter ballots are not returned. Even if the attendance criteria are met, membership can be lost by not responding to letter ballots.

802.16 Business

Approval of the Minutes

Session #1 (Montreal)

Roger Marks noted two amendments to the draft Montreal Meeting #1 Minutes,

1) Revision of 111 to 106 voting members.

2) An update to the charter voting members list.

Motion 5: George Fishel, 2nd Ray Sanders. Motion to accept the minutes from the Montreal meeting as amended.

Approved without objection

Session #2 (Denver)

The minutes (document 80216tg-yy/m) were tabled until the November meeting to give people more time to review them.

Session #5 Site Selection

Roger Marks opened the discussion about the Jan 00 meeting and noted that three proposals had been received: Israel in conjunction with 802.11 and 802.15 by Naftalli Chayat, Dallas by Leland Langston, and Boulder by Roger Marks.

Straw Poll: Who prefers Dallas versus Boulder?

11 Dallas, 6 Boulder

Roger Marks lead a discussion of Israel versus Dallas. He noted that the chairman will make the final decision on the meeting location and will use a straw poll as a strong recommendation.

Straw Poll: Who prefers Israel versus Dallas?

4 Israel, 14 Dallas, 5 abstentions.

Session #7 Date and Site Selection

Roger Marks opened the discussion about meeting #7 which is tentative set for May 1-5 2000, Several attendees noted that April 00 is WRC-00 and RA-2000 and also noted that May 1 is a European holiday. The chair opted to postpone the date issue for meeting #7.

For a session #7 site, Roger Marks suggested Washington DC and George Fishel offered to host the meeting in Hershey, PA. There were no other volunteers for meeting host.

Straw Poll: Washington versus Hershey

10 Washington, 3 Hershey, 10 Abstain

Ad Hoc Patent Committee Report

Ray Sanders reported that the committee was working on a procedure for 802.16 to deal with the IEEE patent policy. The committee has held some conversations amongst themselves. Ray Sanders assisted Roger with wording about the IEEE patent policy on the document template.

Patent and Copyright Policy

Roger Marks indicated that, as a first step, he plans to put a statement such as "Authors acknowledge to have read the IEEE Patent Policy" on the template.

Roger Marks opened the Copyright topic. The IEEE had informed Roger that, with approval of the author, the IEEE will allow IEEE copyrighted documents to be used freely by the 802.16 group.

Submission Templates

Roger Marks opened the presentation template topic. The issue of how presentations of a numbered document will be numbered was asked but not resolved.

802.16.1 PAR Revision

Roger Marks opened the topic of changes to the 802.16 PAR, which at a minimum will include a designator change to 802.16.1. Roger Marks recommended leaving the Air Interface PAR alone except for a simple request to renumber.

The chairman's recommendation was accepted without objection.

802.16.1 Project Plan

Roger Marks opened the issue of a Common MAC & PHY timeline. He indicated that he planned to issue a letter ballot shortly after the Boulder meeting to approve the draft timeline.

Roger Marks opened the issue of posting of MAC and PHY proposals. Roger Marks recommended posting each proposal as received, rather than posting them all at once after the due date.

The chairman's recommendation was approved without objection.

Roger Marks noted that MAC and PHY proposals are due for the Hawaii meeting. As a risky method to get a proposal considered *after* the Hawaii meeting, a submitter may attempt to get a proposal on the meeting agenda when the agenda is offered for acceptance at the beginning of the meeting. As a procedural issue, the group could vote to allow the submission.

Roger Marks noted that the submitter (not the company) gets an invitation to present MAC and PHY proposals at meetings following the Hawaii meeting. The name of the submitter shouldn't change although someone may present for the submitter.

Roger Marks re-opened the issue of the date of the May '00 meeting (meeting #7). After some discussion, Roger Marks recommended leaving the meeting date as on the timeline plan.

Roger Marks re-opened the issue of the Project (timeline) Plan. Roger Marks commented that he intends to send out a letter ballot for Project Plan (timeline and milestones). There was no objection to the chairman's intentions.

802.16.1 Proposal Scoring

Scott Marin presented a Draft Rating Normalization Process. The proposed process attempts to remove bias and differences in spread when voters rate proposals. The process attempts to remove the benefit of, for example, voting 10 for one proposal and 0 for all others. The proposed process first converts an individual rating from among several criteria to a standardized rating having a mean of zero and a standard deviation of one. The process then converts the standardized rating of all voters to a distribution with a given mean and standard deviation. A lively discussion and some objection resulted.

Task Group Reports

PHY Task Group

Jay Klein presented the report for the Task Group (document IEEE 802.16pc-99/06). Jay Klein presented the meeting #4 criteria and the call for PHY proposals (document IEEE 802.16p-99/01).

Systems Requirements

George Fishel asked for questions, and commented that an online comment resolution process is being drafted. Roger Marks and others expressed concern for allowing time for the group to agree to the process. Roger Marks noted that whatever is done must be re-affirmed formally at a meeting.

ITU-R Liaison with ITU-R JRG8A-9B,

 Jose Costa presented the highlights (document IEEE 80216li-99/02).

Regarding System Requirements, Roger Marks suggested renaming to Functional Requirements. There appeared to be no support for the suggestion.

Chairman's Appointments

(See Appendix G for summary of current position holders)

Roger Marks assigned himself as 802.16.1 coordinator.

Roger Marks invited Jim Mollenauer to be editor of 802.16.1.

The Coexistence Task Group had no changes.

The PHY Group still needs a secretary and editor.

The MAC interim chair will continue to be Lou Olsen. Contrary to the foil in Appendix G, Baya Hatim is secretary of the MAC task group rather than the System Requirements task group.

802.16 Rules

Roger Marks noted that it was still necessary to have rules. The 802 rules state that the working group chairman establishes the rules. Roger Marks declared that the 802.3 rules apply until something better is published by 802.16.

Next Meeting

8-12 November, 1999, Kauai, Hawaii.

Adjournment

12:51

Meeting adjourned without objection.

Respectfully,

Scott Marin
802.16 Secretary

Appendix A, Opening Presentation by the 802.16 Chairman

IEEE 802.16
Working Group on
Broadband Wireless Access
(BWA)

Meeting #3
Opening Plenary
September 13, 1999
Boulder, Colorado

Meeting Opening

- **Call to Order**
- **Welcome**
- **Presentation of Meeting Agenda**
- **Approval of Meeting Agenda**
- **Session Schedule for the Week**

Announcements
- **Registration**
- **Attendance list**
- **Rights of Membership**
- **Acquiring and Retaining Membership**
- **Future 802 .16 Sessions**
- **Individuality, Legal, and Anti-Trust**
- **IEEE Patent Policy**
- **Logistics: rooms, breaks, lunches, etc.**

Registration
- Register at front desk ($80)

- Fee covers direct hotel costs only

- IEEE Microwave Theory and Techniques Society (MTT) will subsidize

- No voting rights without registration ($80), or if you have back debts

Attendance List
- **Attendance recorded at each "meeting"**
  - 3 meetings/day (morning/afternoon/evening)
  - 11 meetings in the week
  - "Participation" requires 75% (call it 8)
- **Attendance recorded in parallel meetings**
  - voting credit for presence at either
- **Attendance is public record**
  - attendance will be reported on web
    - Name and company
  - contact info will not be posted

Rights of Membership
- **Voting**
- **Motions and Seconding**
- **Debating**
  - Observers may also debate
- **receive notice of the meeting**
  - Via reflector
- **receive a copy of the minutes**

- **etc.**

Acquiring Membership
- **Thereafter, voting membership in a Working Group is established by participating in the meetings of the Working Group at two out of the last four Plenary sessions.**
- **Membership starts at the third Plenary session attended by the participant.**
- **One duly constituted interim Working Group or task group meeting may be substituted for the Working Group meetings at one of the two Plenary Sessions.**

Retaining Membership

- **Membership is retained by participating in at least two of the last four Plenary session meetings.**

- **One duly constituted interim Working Group meeting may be substituted for one of the two Plenary meetings.**

IEEE and IEEE SA Membership

- **Members are encouraged to join IEEE, IEEE Standards Association, and IEEE Computer Society**
- **Such membership is not required for Working Group membership or voting**
- **Membership in IEEE Standards Association [IEEE or CS + $10] required to participate in "Sponsor Ballot" (review drafts produced by 802.16)**
- **Complete form to vote in 802 ballots**

802.16 Session #4
- **Session #4: November 8-11, 1999**
  - Hyatt Regency Kauai, Kauai, HI
  - Running out of rooms:
    - Sold out Nov 2-4 and Nov 12-13
    - Sold out of cheaper rooms
    - No deposit charged
    - 48 hour penalty-free cancellation
    - 1-800-742-2353
  - $300 ($250 by October 27)
    - Refundable until 3 days before mtg.
  - 802 Chair offers letter of explanation

802.16 Session #5

- **Session #5: January 10-14, 2000**
  - Choose location at Closing Plenary
    - Israel, with 802.11 & 802.15
    - Dallas, Texas

Future 802.16 Sessions

- March 6-9, 2000: Session #6
  - Albuquerque, New Mexico with 802
- May, 2000: Session #7
  - Date and location to be determined.
- July 10-13, 2000: Session #8
  - La Jolla, California with 802
- September 11-15, 2000: Session #9
  - Denver, Colorado, with RAWCON2000
- November 6-9, 2000: Session #10
  - Tampa, Florida with 802

Individuality

- **In IEEE standards meetings, membership is by individual**
  - **you do not represent a company or organization**
- **Membership belongs to the individual, not an organization, and may not be transferred.**

Legal and Anti-Trust

- **Any discussions that relate to the validity or cost of patent use should be avoided.**
- **Any discussions or any material relating to an ongoing litigation shall be avoided.**
- **Any discussions of pricing or issues that would violate US antitrust laws shall be avoided.**

IEEE Patent Policy

- The patent policy is set forth in <u>clause 5</u> of the IEEE Standards Board Bylaws
- "IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing the standard. This assurance shall be provided without coercion and prior to approval of the standard (or reaffirmation when a patent becomes known after initial approval of the standard)."

IEEE Patent Policy (cont.)

This assurance shall be a letter that is in the form of either
  a) **A general disclaimer to the effect that the patentee will not enforce any of its present or future patent(s) whose use would be required to implement the proposed IEEE standard against any person or entity using the patent(s) to comply with the standard or**
  b) **A statement that a license will be made available to all applicants without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination**

IEEE Patent Policy (cont.)

Clause 6.3 of the IEEE Standards Operations Manual

Through the Working Group, the sponsor chair <u>shall request that known patent holders submit a statement</u> either that the patent does not apply to the standard or that licenses will be made available without compensation or under reasonable rates, terms, and conditions. This assurance shall be obtained without coercion and submitted to the IEEE at the earliest practical time prior to the approval of an IEEE standard. The IEEE encourages early disclosure to the working group of patent information that might be relevant to the standard.

Logistics

- **All days except Thursday**
  - **Flagstaff**: (60 seats; data projector)
  - **Trailridge**: (30 seats; data projector)
- **All week**
  - **Millennium**: (60 seats; data projector)
  - **Regal Boardroom**: (12 seats)
- **Copying**
  - No facilities/no budget
- **Flash ROM for document distribution**

Logistics (cont.)

- **Continental Breakfast**
  - **7:30-8 am**
- **Breaks**
  - 10 am coffee
  - 2:30 pm coffee & snacks
  - Location?
- **Lunch:** On your own
- **Dinner**
  - Wednesday, 7:00 pm
  - Optional/separate checks

Appendix B, Agenda for Opening Plenary

802.16 Session #3
Agenda - Opening Plenary Meeting

Monday, 13 September 13:00-14:15

Opening of Meeting and Session	Marks	
Call to Order	Marks	I
Presentation of Agenda for Opening Plenary	Marks	I
Approval of Agenda	Marks	V
Overall Schedule for the Week (non-specific)	Marks	I
Announcements	Marks	I
Attendance list	Marin	I
Voting rights	Marks	I
Registration	Marks	I
Individual and Anti-Trust	Marks	I
IEEE Patent Policy	Marks	I
Logistics: rooms, breaks, lunches, etc.	Marks	I
Other Announcements	Marks	I
Approval of minutes		
Session #1 (Montreal, 6-8 July, 1999)	*postpone until closing*	
Session #2 (Denver, 4-6 August, 1999)	*postpone until closing*	
Matters arising from the minutes		
Reports		
Chair's Status Report	Marks	I
Liaison Reports		
ITU JRG 8A/9B	Costa	I
ETSI BRAN	(none)	I
Task Group Reports		
Coexistence Task Group	Langston	I
System Requirements Task Group	Fishel	I
MAC Task Group	Olsen	I
PHY Task Group	Klein	I
IF Interface Ad Hoc Committee	Van der Star	I
Charge to Task Groups	Marks	I
Overall Schedule for the Week (time allocations)	Marks	I

Appendix C, Schedule for Session #3

IEEE 802.16 Working Group on Broadband Wireless Access Session #3

13-17 September, 1999

Boulder, Colorado, USA

Schedule

Monday September 13	13:00	14:15	Flagstaff	802.16 Opening Plenary
	14:30	22:00	Flagstaff	MAC Task Group
			Trailridge	Coexistence Task Group
			Millennium	(reserved)
Tuesday September 14	08:00	22:00	Flagstaff	MAC Task Group
			Trailridge	Coexistence Task Group
	19:00	21:00	Millennium?	IF Interface Ad Hoc
Wednesday September 15	08:00	17:00	Flagstaff	MAC Task Group
			Trailridge	Coexistence Task Group
			Millennium	PHY Task Group
	17:00	18:00	Flagstaff	802.16 Plenary: inc. Coexistence and MAC Issues
	19:00	22:00	off-site	Optional Dinner
Thursday September 16	08:00	22:00	Millennium	PHY Task Group
			Regal Boardroom	System Requirements Ad Hoc QoS Committee
			to be determined	System Requirements Ad Hoc Terminology Committee
Friday September 17	08:00	10:00	Flagstaff	System Requirements Task Group
	10:15	12:00	Flagstaff	802.16 Plenary: inc. System Requirements and PHY Issues

Appendix D, Chair's Status Report

IEEE 802.16
Working Group on
Broadband Wireless Access
(BWA)
Chair's Status Report
September 13, 1999
Boulder, Colorado, USA
Roger B. Marks

Session #1 (July, Montreal)
- 106 Voting Members
- Submitted Coexistence PAR: 802.16.2
  - Approved by 802 (99/07/08)
  - Approved by IEEE expected (99/09/16)
    - Issue: deadline too optimistic?
- Requested 802 to renumber air interface PAR from 802.16 to 802.16.1
  - Deferred until November
  - Option to make additional changes

Session #2 (Denver, August)
- System Requirements Task Group only
- Finances:
  - $ 831.14   Food and Beverage
  - $ 663.50   Audiovisual
  - $1494.64   Total Expense
  - –$930.00   Registration Fees (31 @ $30)
  - $564.64   Net due to hotel
  - $350.08   held for 802.16 by MTT
  - $214.56   MTT subsidy to pay bill
- With RAWCON'99

IEEE RAWCON'99
- **http://rawcon.org**
- **Denver, Colorado, August 1-4**
- **Roger Marks, General Chair**
- **75 Technical Talks**
- **Broadband Wireless Access Operator's Forum**
  - **CTO, Formus Communications, Inc.**
  - **Director, Technology Development, Teligent, Inc.**
  - **Senior Director, Network Architecture, WinStar**

RAWCON'99 Panel Session
- **Wireless Standardization: Players, Stakes, and Opportunities**
- Tuesday, August 3
- Panelists:
  - 802.11 Editor
  - 802.15 Chair
  - 802.16 Chair
  - ITU-R JRG 8A/9B Co-Chair
  - Chair, T1P1
  - Member, T1P1 and 802.16

RAWCON'99 Workshop
- **Wireless Personal Area Networks: An Overview**
  - Monday, August 2
  - Organizer and Chair:
    Dr. Robert F. Heile, Chair, 802.15
  - Similar to WPAN tutorial at March 802 Plenary (4 hours long)

802.16 Publicity
- "Fixed Wireless Routes for Internet Access"
  - IEEE Spectrum, September, 1999
  - Did NOT mention 802.16, although I had been emailing the Technical Editor
  - Technical Editor offered:
    - Add info to web version
    - Publish Letter to Editor (November issue)
    - Publish article on 802.16 next year
- ICM Wireless Broadband Conference
  - Atlanta, Georgia, January 24-25, 2000
  - Seeking 802.16 representative

End of Chair's Status Report

Liaison Report

ITU JRG 8 A/9 B

Jose Costa

Coexistence Task Group

Leland Langston, Chair

System Requirements Task Group

George Fishel, Chair

MAC Task Group

Lou Olsen, Acting Chair

PHY Task Group

Jay Klein, Chair

Charge to Task Groups

- **On Friday, present to Plenary:**
  - **Long-term project timeline**
    - **Meeting by meeting milestones**
    - **through completion of draft**

  - **Detailed proposal evaluation process**

  - **Plan for next meeting**
    - **Inc. Call for Contributions**

Ad Hoc Committees

- **Ad Hoc Patent Policy Committee**
  - Ray Sanders, Chair
  - Fred Lucas, Member
  - Brian Kiernan, Member

- **Ad Hoc IF Interface Committee**
  - Jack van der Star, Chair
  - Erol Yurtkuran, Member
  - Stan Reible, Member

Ad Hoc Rules Committee

- **Preliminary Rules**
  - **Based on 803.3 Rules**
- **Policy of Openness**
- **Templates**
  - **No company logos**
    - **Document submissions**
    - **Presentations?**
- **Rules Committee**
  - **Roger Marks, Chair**
  - **Gene Robinson, Member**
  - **Rules to be presented at Closing Plenary**

Appendix E, Wednesday Plenary

IEEE 802.16
Working Group on
Broadband Wireless Access

Meeting #3
Wednesday Plenary
September 15, 1999
Boulder, Colorado

Agenda

- **Announcements**
- **Reports**
  - **Coexistence Task Group**
  - **MAC Task Group**
  - **IDU/ODU Ad Hoc Committee**
- **802.16.1 Proposal Scoring**
- **Topics for Closing Plenary**

Announcements

- Registration

- Wednesday Dinner

- Thursday Meetings

- Friday Meetings

Registration

- **Everyone is paid**
  - **49 people**

- **Some receipts passed out**

- **See me if you haven't received yours**

Wednesday Dinner

- **Boulder Broker Inn (hotel)**
- **Separate billing**
- **7 pm**
- **Meet in lobby at 6:45 pm**
- **Directions (5-10 minutes):**
  - **South on 28th St., 1 Exit**
  - **Left (East) on Baseline**
  - **Right (South) on 30th, to end**

Thursday Meetings

- **PHY Task Group:**
  - **8 am, Millennium Room**
- **SysReq Ad Hoc: QoS**
  - **8 am, Regal Class Board Room**
- **SysReq Ad Hoc: Terminology**
  - **11-12 am, Regal Class Board Room**
  - **4-5 pm, Regal Class Board Room**

Friday Meetings

- **SysReq Task Group:**
  - **8 am, Millennium Room**

- **802.16 Plenary**
  - **10-12 am, Millennium Room**

Reports
- **Coexistence Task Group**

- **MAC Task Group**

- **IDU/ODU Ad Hoc Committee**
  - **Chair notes: Ad Hoc Committee will expire after Session #4.**
  - **Ad Hoc Committee may propose Study Group formation for vote at Session #4 Plenary, with 30 days notice.**

802.16.1 Proposal Scoring

- **Suggestion by Scott Marin**

Agenda: Friday Plenary

- **802.16.1 Project Plan**
- **802.16.1 Proposal Scoring**
- **802.16.1 Call for Contributions**
- **Agenda for Session #4**
- **Session #5 & #7 Date Selection**
- **Session #5 Site Selection**
- **SysReq Issues**
- **PHY Issues**
- **ITU Liaison Report**

Appendix F, Draft 802.16 Timeline as of 9/16/99
(see document IEEE 802.16-99/05 for a later revision)

Session	Deadline	*Input*	At Meeting	Outputs
#4 99/11/08-11	99/10/30	Proposals: -abstract -key points	Tuesday: MAC Proposals presented (15 min) and debated (15 min) Wednesday: PHY Proposals presented (15 min) and debated (15 min) Thursday morning: MAC and PHY proposals Debated. Scored.	Score Proposals (1-10) in each of several categories. Those scoring 6 or better in any category are invited to submit for #5.
#5 00/01/10-14	99/12/24	Proposals: -details on all points in outline	Proposals received by invitation presented. Uninvited proposals accepted with prejudice. Suggested improvements & mergers offered as "friendly amendments." Proposals scored.	Score Proposals (1-10) in each of several categories. Those scoring 7 or better in any category invited to submit for #6.
	00/01/05	Suggested improvements to submissions. Suggested mergers.		
#6 00/03/06-09	00/02/18	Proposals: -draft standard format	Invited proposals presented. Suggested improvements & mergers offered as "friendly amendments." Proposals scored.	Score Proposals (1-10) in each of several categories. Those scoring 7 or better on average invited to submit for #7.
	00/02/28	Suggested improvements to submissions. Suggested mergers.		
#7 00/05/01-05	00/04/14	Proposals: -formatted standard -supporting simulated or measured data	Invited proposals presented. Suggested improvements & mergers presented. Opportunity to revise or merge.	MAC and PHY drafts selected.
	00/04/24	Suggested improvements to submissions. Suggested mergers.		
#8 00/07/10-13	00/06/02	Editor unites MAC, PHY, System Requirements into tentative draft.	Resolve comments. Approve tentative draft.	Tentative draft standard. Approval of letter ballot.
	00/06/30	Comments on tentative draft.		
#9 00/09/11-15	00/07/12	WG letter ballot begins.	Resolve comments.	Approve letter ballot recirculation.
	30 days	WG letter ballot ends.		
	00/09/01	Editorial committee publishes comment resolutions.		
#10 00/11/06-09	00/09/19	WG letter ballot recirculation begins.	Resolve comments.	Draft standard to 802. 802 approves sponsor ballot.
	00/09/29	WG letter ballot recirculation ends.		
	00/10/27	Editorial committee publishes comment resolutions.		
#11 01/01/22-26	00/11/21	Initiation of sponsor ballot	Resolve comments.	Initiate sponsor ballot recirculation.
	00/12/22	Sponsor ballot ends.		
	01/01/12	Editorial committee publishes comment resolutions.		
#12 01/03/??	01/01/31	Sponsor ballot recirculation begins.	Resolve comments. 802.16 approves draft standard.	Sponsor ballot results to 802. 802 forwards draft to IEEE.
	01/02/09	Sponsor ballot recirculation ends.		
	02/02/29	Editorial committee publishes comment resolutions.		

Appendix G, Closing Plenary Presentation

Slide 1:

IEEE 802.16
Working Group on
Broadband Wireless Access
Meeting #3
Closing Plenary
September 17, 1999
Boulder, Colorado

Slide 2: Agenda (page 1)

- Announcements — 10
- 802.16 Business
  - Approval of minutes — 05
    - Session #1
    - Session #2
  - Session #5 Site Selection — 10
  - Session #7 Date Selection — 05
  - Patent Procedures — 10
  - Submission Templates — 05

Slide 3: Agenda (page 2)

- 802.16.1 Business
  - 802.16.1 Project Plan — 10
  - 802.16.1 Proposal Scoring — 10
  - 802.16.1 PAR Revision — 05
- Reports
  - PHY Task Group — 15
  - System Requirements Task Group — 10
  - ITU JRG 8A/9B Liaison — 10
- Appointments — 05
- Future Meeting — 10
  - Agenda for Session #4
- Adjournment — Total: 2 hrs

Slide 4: Agenda Approval

- Additions or changes
- Objections
- Approval

Slide 5: Registration

- Everyone is paid
  - 48 people
  - income= $3840
  - Close to breakeven
  - Suggestion: no overheads in future

- Some receipts passed out
- See me if you haven't received yours
- Registration database on Flash ROM

Slide 6: Quorum

We have no quorum.

A vote is carried by a 75% approval of those members voting "Approve" and "Do Not Approve". No quorum is required at meetings held in conjunction with the Plenary session since the Plenary session time and place is established well in advance. A quorum is required at other Working Group meetings... A quorum is at least one-half of the Working Group members.

[i.e., half of 106 = 53 members]

Slide 7: Letter Ballots

The decision to submit a draft standard or a revised standard to the Sponsor Ballot Group must be ratified by a letter ballot. Other matters may also be decided by a letter ballot at the discretion of the Working Group Chair. The letter ballot response time must be at least forty days from the time of "sending" postmark to the postmark of the returned ballot.

The ballot shall contains three choices:
Approve. (May attach non-binding comments.)
Do Not Approve. (Must attach specific comments on what must be done to the draft to change the vote to "Approve".)
Abstain. (Must include reasons for abstention.)
A 75 percent approval of the Working Group confirmation letter ballot is necessary with at least 50 percent of the members voting.

Slide 8: Membership Loss/Letter Ballot

Membership may be lost if two of the last three Working Group letter ballots are not returned, or are returned with an abstention other than "lack of technical expertise." This rule may be excused by the Working Group Chair if the individual is otherwise an active participant.

Approval of Minutes

- **Session#1: Montreal (5-9 July 1999)**
  - **Document number** 802.16-99/04r0
  - Change "Total of 111 voting members for Montreal Session 6" to "111 people were eligible to vote at the Closing Plenary if in attendance. At the session close, 106 became charter Voting Members."
  - Change "4.7 Voting members as of the end of the Montreal Meeting" to "4.7 Charter Voting Members of 802.16"

Approval of Minutes

- **Session#2: Denver (4-6 August 1999)**
  - **Document number** 802.16sc-99/32r0
  - Await System Requirements Group action

Site Selection: Session #5
10-14 January, 2000

- **Tel Aviv, Israel**
  - **Host: Naftali Chayat**

- **Dallas, Texas**
  - **Host: Leland Langston**

- **Boulder, Colorado**
  - **Host: Roger Marks**

Date Selection: Session #7
1-5 May, 2000

Possible sites:

- **Washington, DC area**
  - **Host: ?**

- **Hershey, Pennsylvania**
  - **Host: George Fishel**

Report: Ad Hoc Patent Procedures Committee

- **Ray Sanders, Chair**
- **Brian Kiernan**
- **Fred Lucas**

802.16 Submission Templates

Document Submission Template: Word
- **Add IPR acknowledgement**
- **Possible future IPR claim sheet**
- **Add IEEE copyright permission**

Presentation Template: PowerPoint (new)
- **Similar cover sheet**
- **Not for contributions**
- **Not a substitute when Document Submission Template is specified**
- **No logos or needless graphics**

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- Use this template is for all presentations at 802.16 meetings.
- Note: Formal contributions should instead use the 802.16 Document Submission Template [Document IEEE 802.16-99/03?]. Presentations are not acceptable substitute for a formal contributions but may be associated with a formal contribution.
- Detailed Instructions:
  - Click View, Master, Slide Master
  - Edit header and footer with document specific information (the bracketed items).
  - Repeat header/footer edits for Handout Master and Notes Master, if used.
  - Click View, Slide
  - Edit, Delete Slide 1 (this slide),
  - Fill in the cover slide information, I.e. the bracketed items, leave the disclaimers.
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Title	[Title of Presentation, e.g., 802.16 Presentation Template Revision 1]
Source	[Author Name] Voice: [ ]
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Re:	[If this is a presentation associated with a contribution, cite the original document number].
Abstract	[Description of presentation.]
Purpose	[Description of what the author wants 802.16 to do with the information in the document.]
Notice	This document has been prepared to assist the IEEE 802.16 . It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor acknowledges and accepts that this contribution may be made publicly available by 802.16.

Reports

- **System Requirements Task Group**
- **PHY Task Group**
- **ITU Liaison**

802.16.1 PAR Revision

- **At Session #1, approved this plan:**
  - **802.16 = Working Group**
  - **802.16.1 = air interface project**
  - **802.16.2 = coexistence project**
- **802.16.2 approved yesterday (I assume)**
- **For 802.16 => 802.16.1, SEC required 30 days notice**
- **Opportunity to make other changes**
  - Target Completion Date: 31 Jan. 2001
  - Could move to 16 March 2001

System Requirements Task Group
George Fishel

- **Report**
  - On-line comment resolution
  - Other issues
- **Discussion**
- **Approval of Working Documents?**
- **Plans**

802.16.1 Project Plan

- **Timeline and milestones**
- **Common to MAC and PHY**
- **Seek approval by letter ballot**
  - **Distribute 99/09/17**
  - **Close 99/10/27**
  - **Proposal deadline 99/10/30**

PHY Task Group
Jay Klein

- **Report**
- **Discussion**
- **Approval of Working Documents?**
- **Plans**

802.16.1 Proposal Scoring

- **Normalization Process**
  - **Scott Marin**

ITU JRG 8A/9B Liaison
José Costa

- **Report**
- **Discussion**
- **Plans**

Appointments

- **Working Group Chair has the authority to assign/unassign subtasks and task leaders or executors, e.g. secretary, subgroup chair, etc.**

Appointments

- **PHY Task Group**

- **Interim Leadership**
  - Chair: Jay Klein
  - Vice Chair: John Liebetreu
  - Editor: ?
  - Secretary: ?

Appointments

802.16.1

- **Coordinator: Roger Marks**
- **Editor: Jim Mollenauer (invited)**

Appointments

- **MAC Task Group**

- **Leadership**
  - Acting Chair: Lou Olsen
  - Vice Chair: Jung Yee
  - Editor: Phil Guillemette
  - Secretary: ?

Appointments

- **Coexistence Task Group**

- **Leadership Team**
  - Chair: Leland Langston
  - Vice Chair: Keith Doucet
  - Editor: Erol Yurtkuran
  - Secretary: Reza Arefi

Rules

- **Still have none of our own**
  - Temporary Rules based on 802.3 Rules
- **The Working Group Chair has the authority to establish Working Group rules beyond the Working Group rules set down by the Executive Committee. These rules must be written and all Working Group members must be aware of them.**
- **Chair will publish rules As Soon As Possible**
  - Will go into effect when published
  - Will seek ratification at Session #4

Appointments

- **System Requirements Task Group**

- **Leadership Team**
  - Chair: George Fishel
  - Vice Chair: David Jarrett
  - Editor: Brian Petry
  - Secretary: Baya Hatim

Next 802.16 Session: #4
8-12 November, 1999

- Hyatt Regency Kauai, Kauai, HI, USA

- 1-800-742-2353 (call ASAP)

- 802 Chair offers letter of explanation

1999-09-17   IEEE 802.16 Working Group on Broadband Wireless Access   IEEE 802.16-99/xx

802.16 Session #4: Agenda

	AM	PM
Mon	802	802.16 (1-2:30)
		SysReq (2:30-)
Tue	PHY and Coexistence (all day)	
Wed	MAC and Coexistence (all day)	
Thurs	PHY/MAC/Coex.	802.16
Fri	802	-

Roger Marks, 802.16 Chair

1999-09-17   IEEE 802.16 Working Group on Broadband Wireless Access   IEEE 802.16-99/xx

Adjournment

- **Thanks!**

- **Congratulations!**

Roger Marks, 802.16 Chair

Appendix H, Co-existence Time Line

Date	Days	1.5 Meeting Location	1.6 MileStone
08-Oct-99			1st Rough draft posted
22-Oct-99	14		Meeting 4 contribution deadline
04-Nov-99	13		Comments due
08-Nov-99	4	#4: Kauai, HI	
29-Nov-99	21		2nd Rough draft posted
10-Jan-00	42	#5: Dallas, TX	
06-Mar-00	56	#6: Albuquerque, NM	
10-Mar-00	4		Draft Complete – Task Group, Release for letter ballot (802.16)
01-May-00	52	#7: TBD	
05-May-00	4		Draft Complete – Working Group, Request for sponsor ballot (802)
19-May-00	14		Sponsor ballot approval - Draft Standard
22-May-00	3		Begin sponsor ballot
21-Jun-00	30		First sponsor ballot completed
27-Jun-00	6		Begin Re-circulation
07-Jul-00	10		Re-circulation completed
10-Jul-00	3	#8: La Jolla, CA	
14-Jul-00	4		Submit to IEEE

Schedule Risks:

- Major issues left unresolved
- Not enough meeting time scheduled, schedule too aggressive
- Jan meeting – poor attendance if not in U.S.
- Scope of project expands beyond initial goal
- Industry deployments/developments make project obsolete

Appendix I, Attendance

Eleven morning, afternoon, and evening sessions were originally scheduled. The three evening sessions were cancelled, which left a total of eight scheduled sessions. To meet the 75% criteria, attendance was required at 6 or more sessions. Note that people who attended Jack Van der Star's IF Ad Hoc meeting on Tuesday night and signed the book were given credit for attending a session.

The number after each name indicates the number of sessions attended.

For voting purposes, people who attended at least 75% of the sessions (Table I-1) can substitute attendance at this meeting (Meeting #3) for attendance at an 802 plenary meeting. People who attended less than 75% of the sessions (Table I-2) can not substitute meeting #3 for and 802 plenary.

Please contact Scott Marin if you feel your attendance record is incorrect.

Table I-1. People who Attended at least 75% (6 of 8 sessions)

Baldo, Paolo 8	Lu, Willie 9
Chayer, Rémi 7	Maghera, Mohan 9
Costa, José M. 6	Marin, J. Scott 9
Eklund, Carl 9	Marks, Roger B. 9
Fishel, George R. 8	Mollenauer, James F. 8
Foerster, Jeffrey R. 7	Myers, William K. 9
Garrison, G. Jack 6	Olsen, Louis 9
Guillemette, Phil 9	Park, Yunsang 9
Hatim, Baya 7	Ran, Moshe 9
Holyoak, Joel N. 8	Robinson, Gene 8
Hunter, Wayne 9	Sanders, Ray W. 8
Jasper, Steve 8	Schafer, David 8
Jevremovic, Vladan 7	Shirali, Chet 7
Kandala, Srinivas 8	Stambaugh, Karl 6
Klein, Jay 9	Van der Star, Jack 8
Langston, J. Leland 9	Winslow, Steve 8
Lee, Allan 9	Yee, Jung 8
Leonid, Shousterman 8	Yurtkuran, Erol 6
Levin, Gregg 7	

Table I-2. People who attended at least one but less than 75% of the sessions

Arefi, Reza 5
Chan, Rebecca S.M. 3
Dalke, Roger 1
Doucet, Keith 4
Etemad, Kamran 4
Lazaris-Brunner, Ken 5
Liebetreu, John 5
Orshan, Michael 3
Ribner, David B. 3
Sandler, Howard 5
Varma, Subir 3