



Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >
Title	<b>Minutes of 802.16 Session #8</b>
Date Submitted	<b>2000-08-13 (Rev. 1: added Appendix E; approved 2000-09-11)</b>
Source(s)	Scott Marin      Voice: 972-424-2386 Fax: 972-516-2202 802.16 Secretary E-mail: <a href="mailto:smarin@ix.netcom.com">smarin@ix.netcom.com</a>
Re:	<b>802.16 Session #8 (La Jolla, California, U.S.A., 10-13 July 2000)</b>
Abstract	This document records the minutes of 802.16 meetings held at 802.16 Session #8
Purpose	To record progress and decisions of the Working Group.
Notice	This document has been prepared to assist 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.
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Patent Policy and Procedures	<p>The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures (Version 1.0) &lt;<a href="http://ieee802.org/16/ipr/patents/policy.html">http://ieee802.org/16/ipr/patents/policy.html</a>&gt;, including the statement "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."</p> <p>Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair &lt;<a href="mailto:r.b.marks@ieee.org">mailto:r.b.marks@ieee.org</a>&gt; as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site &lt;<a href="http://ieee802.org/16/ipr/patents/letters">http://ieee802.org/16/ipr/patents/letters</a>&gt;.</p>

**Minutes of 802.16 Session #8  
A Plenary Session of the IEEE 802.16  
Working Group on Broadband Wireless Access  
Hyatt Regency Hotel, La Jolla, California, USA  
10 to 13 July, 2000**

**1. Monday, July 10, 2000, Opening Plenary**

The meeting was called to order by Roger Marks at 1:06 P.M.

Roger Marks appointed George Fishel as acting secretary in the absence of Scott Marin.

Roger Marks conducted a review of the agenda for the week.

Roger Marks asked for approval of the opening plenary agenda (See Appendix A). No objections were raised. The agenda was approved.

Roger Marks gave a brief history of IEEE 802.16 (See Appendix A for the Chairman's presentation).

Roger Marks reviewed the Rules of IEEE 802.16

Roger Marks reviewed the attendance rules and the sign-in book. Carl Bushue volunteered to take care of the sign-in book. Roger Marks announced that for Session#8 attendance at 5 of 7 intervals would be required to meet the 75% attendance rule.

Roger Marks asked for a show of hands of potential members that wish to become members and about 20 people raised their hands. Roger Marks requested that anyone interested in membership give a business card to the secretary stating that they desired membership.

Roger Marks asked for a volunteer librarian for this meeting and requested that all documents be placed on the flash card. Brian Petry volunteered. An attempt will be made set up an ad hoc wireless and 10 BASE T network for the meeting.

Roger Marks reviewed all of the legal information that applies to our meeting

Roger Marks asked for approval of the minutes from Session #7. The minutes from Session # 7 were approved without objection.

Roger Marks asked for approval of the Working Group decision at Session #7 to accept IEEE 802.16-00/12 as the Minutes of 802.16 Session#6. Approval was without objection.

Roger Marks gave an overview of the WirelessHUMAN study group, the new standards-for-free policy proposed to IEEE 802, and the method of financing standards. One proposal uses \$100 from meeting fees to finance standards.

Roger Marks summarized the status of 802.16.1 by stating that we have a consolidated PHY proposal from the May meeting and some recommendations by Jeff Foerster that must be resolved at this meeting. We have a consolidated MAC proposal that came out of Session #7 and # 7.5 that must be developed at this meeting.

Jay Klein gave a report on the activity of the 802.16.1 PHY group.

Carl Eklund gave a report on the activity of the 802.16.1 MAC group.

Leland Langston gave a progress report on the 802.16.2 Coexistence group.

Brian Kiernan gave a status report for the 802.16.3 group including comment resolution on the functional requirements document.

Durga Satapathy gave a report on the activity in the Wireless HUMAN Study Group.

David Trinkwon lodged an objection to conducting the 802.16.3 and the Wireless HUMAN meetings in parallel. He said that at the last meeting, 40% of the members expressed interest in both groups. He requested this problem be resolved. Roger Marks noted that both groups have

assignments to carry out and expressed concern that a joint meeting will amount to a cancellation of a WirelessHUMAN meeting, with potential damage to the Study Group's prospects. Brian Kiernan proposed that he talk with Durga Satapathy and see if the issue can be resolved after the meeting so that people will be able to attend those parts of both meetings in which they have an interest.

Jay Klein gave a liaison report from ETSI BRAN Session # 19.

Barry Lewis presented a liaison report from ETSI TM-4 (see doc. IEEE 802.161-00/15).

José Costa gave a liaison report of the activities of ITU-R (see doc. IEEE 802.161-00/16).

Naftali Chayat proposed Tel Aviv, Israel as the location of the January meeting and gave a presentation.

At 4:00 P.M., Roger Marks called a recess until the midweek plenary, which is scheduled for 4:30 P.M. on Wednesday.

## **2. Wednesday, 12 July, 2000, Midweek Plenary**

Roger Marks called the meeting to order at 5:04 P.M. Roger Durand is the acting Secretary.

Roger Marks reviewed the midweek plenary agenda (See Appendix B), which was approved without objection.

Roger Marks discussed the distribution, circulation, and content of flash ROM and CD (see presentation in Appendix B).

Roger Marks announced that 802.16 will proceed with the letter ballot on the air interface standard as an 802.16.1 task group letter ballot not as an 802.16 working group letter ballot. Furthermore, Roger Marks noted that all members of the working group may input content on the ballot.

Jay Klein provided an update on the 802.16.1 task force PHY activities (See presentation in Appendix B).

Carl Eklund updated the working group on the activities of the 802.16.1 task force MAC activities.

Leland Langston updated the working group on the activities of the 802.16.2 coexistence activities. Roger Marks suggested a task group letter ballot for the 802.16.2. Leland Langston communicated his intent on getting this ballot out to coincide with the 802.16.1 ballot.

Brian Kiernan updated the working group on the activities of the 802.16.3 task force activities (see presentation in Appendix B). Some discussion was directed to the acceptability of the 802.16.1 proposed MAC in the 802.16.3 application. Brian indicated 802.16.3 will not comment collectively but individuals may comment on the 802.16.1 task force letter ballot.

Brian Kiernan commented on the press release of the IEEE ISTO creation of a Broadband Wireless Access group. Brian Kiernan introduced the creation of an ad hoc group, chaired by Brian Petry, to address the issue.

Brian Petry explained the activities of the ad-hoc group. (See Appendix B). Roger Marks communicated the need to address this issue to the IEEE 802 executive committee and the importance to prioritize the task group's time.

Demos Kostas updated the working group on the WirelessHUMAN study group activities. Oral updates included a pending call for contributions from the group and a request to extend the study group through the November plenary.

Roger Marks then updated the working group on liaison issues relative to the ETSI activities. A new liaison letter (802.161-00/17) from ETSI has been received and posted to the 802.16 website.

Roger Marks then updated the working group on the remaining agenda items and noted the need to expedite preparation of liaison letters in time for executive committee review.

### 3. Thursday, 13 July, 2000, Closing Plenary

Roger Marks, 802.16 Chairman, called the meeting to order at 3:30 P.M. Roger Durand is the acting secretary.

The Chairman reviewed the closing meeting agenda (See Appendix C) and the agenda was approved without objection

The Chairman reviewed the attendance book and commented that 81 people from the membership list had signed with 79 (corrected to 84) business cards in the attendance book, bringing the total attendance to 165.

The Chairman presented and reviewed a draft liaison letter to ETSI BRAN.

**Motion#1, David Trinkwon, 2<sup>nd</sup> Jim Mollenauer, to approve the liaison letter**

Motion#1 Approved by unanimous voice vote. The final version of the letter is doc. IEEE 802.161-00/19.

Brian Kiernan updated the working group of the 802.16.3 task force activities relative to liaison letters. Brian reviewed a draft liaison letter to ETSI-BRAN. (See Appendix C)

**Motion#2, David Trinkwon, without second, to accept and send the letter.**

By voice vote Motion#2 is accepted without opposition. The final version of the letter is doc. IEEE 802.161-00/21.

Leland Langston updated the working group on the activities of the 802.16.2 coexistence task group and presented a draft liaison letter to ETSI TM4

**Motion#3, Leland Langston, without second, to accept a liaison letter to ETSI TM4.**

By voice vote, Motion#3 is accepted without opposition. The final version of the letter is doc. IEEE 802.161-00/20.

The Chairman updated the working group on three significant motions that were approved by 802.16.1. See Appendix C. The motions resolve to develop an 802.16.1 MAC specification based on doc. IEEE 802.16.1mc-00/21r1, define the 802.16.1 review process, and appoint an editorial team.

Jay Klein updated the working group on the activities of 802.16.1 PHY. See presentation in Appendix C.

David Trinkwon requested that the editorial team review the document for instances of the word "bandwidth," noted that the word "capacity" is more appropriate in most cases, and urged the editorial team to use the appropriate wording.

Tom Kolze asked that a mechanism be employed to assist the reviewers of the edited documents, i.e. change bars in a pdf documents.

Leland Langston updated the working group on the activities of the 802.16.2 coexistence activities. See presentation in Appendix C. Leland Langston also presented a coexistence timeline document (see Appendix C). Leland Langston made recommendations to increase the leadership of the 802.16.2 as follows CoChair Andy McGregor, ViceChair Rémi Chayer, and an Editor Vito Scaringi. Roger Marks requested clarification as to whether Mr. Langston and Mr. McGregor would be acting as equal Co-Chairs, and Mr. Langston replied that they would. Roger Marks acknowledged the recommendation and approved the above appointments.

Brian Kiernan updated the working group on the activities of the 802.16.3 task force. See Appendix C. Brian Kiernan then presented and reviewed a 802.16.3 task group response letter to the ISTO organization press release, see doc. IEEE 802.16.3-00/08 This letter is directed through the working group to the IEEE LMSC.

Brian Kiernan also presented was a draft conflict-of-interest letter on this same subject drafted by Jim Carlo, Chairman of IEEE 802. (The subsequently revised position statement is contained in <http://grouper.ieee.org/groups/802/16/802/positionBWIF.pdf>).

Brian Kiernan redirected the group to the specific wording of four motions contained in the Task Group letter and asked for a working group consensus.

Motion#4, Brian Kiernan, for the IEEE LMSC executive committee to consider and report back to 802.16.3 Task Group: IEEE LMSC expects the IEEE, IEEE-ISTO, IEEE-SA and any other IEEE organization to immediately disassociate from the BWIF industry group and publicly retract any association with it. This shall include an IEEE press release covering the disassociation.

30 in favor, 2 against, Motion#4 passes.

Motion#5, Brian Kiernan, for the IEEE LMSC executive committee to consider: Any letter that the IEEE LMSC executive committee submits to other IEEE offices on the issue of the BWIF press release must include the content of the previous motion.

34 in favor, 2 against, 0 abstentions, Motion#5 passes.

Motion#6, Brian Kiernan, for the IEEE LMSC executive committee to consider: In particular, that the IEEE shall accomplish disassociation from BWIF sponsorship prior to the July 26, 2000 inaugural BWIF meeting.

32 in favor, 2 against, 0 abstentions, Motion#6 passes.

Motion#7, Brian Kiernan, for the IEEE LMSC executive committee: That IEEE initiate a review of the IEEE-ISTO procedures and processes associated with standards development and take any action necessary to assure the integrity of the IEEE Standards process and report back to the IEEE LMSC.

36 in favor, none against, 0 abstention, Motion#7 passes.

Motion#8, Brian Petry, 2<sup>nd</sup> Brian Kiernan, to recognize the intention and support the principal of Jim Carlo's letter.

35 in favor, 0 against, 1 abstention. Motion#8 passes

Durga Satapathy updated the working group on the activities of the WirelessHUMAN study group. (See doc. IEEE 802.16hp-00/09). Durga Satapathy reviewed a draft liaison letter to 802.11.

Motion#9, Durga Satapathy, 2<sup>nd</sup> Demos Kostas, to approve this liaison letter on behalf of the 802.16 working group.

19 in favor, 0 against, 1 abstention. Motion#9 passes. The subsequent letter is at <http://ieee802.org/16/arc/802-16list/msg00740.html>.

Motion#10, Durga Satapathy, 2<sup>nd</sup> Demos Kostas, to extend the WirelessHUMAN study group through the November plenary.

26 in favor, 0 against, 1 abstention, Motion#10 passes.

Roger Marks updated the group on the next meeting in Denver from 11 through 15 September 2000.

Naftali Chayat discussed the interim meeting in January 2001.

Motion#11, Naftali Chayat, 2<sup>nd</sup> Jim Mollenauer, to hold 802.16 Session #11 in Tel Aviv, Israel from 22 to 26 January 2001.

27 in favor, 0 against, 1 abstentions. Motion#11 passes.

Without objection, Session#8 is closed.

#### **4. Acknowledgements**

The 802.16 secretary would like to thank George Fishel for acting as secretary in the opening plenary and Roger Durand for acting as secretary for the midweek and closing plenaries. In addition, the 802.16 secretary would like to thank Carl Bushue for taking care of the sign-in book and Brian Petry for being the document librarian.

Respectfully,

Scott Marin

802.16 Secretary

# Appendix A, Opening Plenary Presentations

## Opening Plenary Agenda

The opening agenda is at <http://iee802.org/16/meetings/mtg08/opening.html>.

## Chair's Opening Plenary Presentation

<p><b>IEEE 802.16 Session #8 Opening Plenary Meeting</b></p> <p>IEEE 802.16 Presenting Sub-Committee to update (Rev. 8)          Document Number: _____          Name: _____          Date Submitted: _____          Title: _____          Source: _____          Author: _____          Editor: _____          Date: _____          Version: _____          Session #8, Opening Plenary          No. of Documents: _____          Name: _____          Program: _____</p> <p>The presentation title is as indicated in the Session #8 minutes.</p> <p><small>This document has been prepared by the IEEE 802.16. It is offered as advice for discussion and is not intended to be a final standard. It is subject to change without notice and is not intended to be a standard. The copyright in this document is owned by IEEE. All rights reserved. This document is intended for use by IEEE members only. Redistribution, reproduction, or retransmission in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, is prohibited without the prior written permission of IEEE. For more information, contact IEEE at <a href="http://www.ieee.org">http://www.ieee.org</a>.</small></p>	<p style="text-align: center;"><b>Welcome</b></p> <ul style="list-style-type: none"> <li>• <b>802.16 Culture</b> (ala IEEE 802 culture)             <ul style="list-style-type: none"> <li>• Engineering Membership</li> <li>• Seeking Technical Consensus</li> <li>• Open (even by 802 standards)</li> <li>• Procedural and Fair</li> <li>• Contribution-Driven</li> </ul> </li> <li>• <b>802 is extremely successful</b> <ul style="list-style-type: none"> <li>–802 is following the model</li> <li>–excellent record of progress</li> </ul> </li> </ul>	<p style="text-align: center;"><b>IEEE and IEEE SA Membership</b></p> <ul style="list-style-type: none"> <li>• <b>Members are encouraged to join IEEE, IEEE Standards Association, and IEEE Computer Society</b></li> <li>• <b>Such membership is not required for Working Group Membership, Observer Status, or Sponsor Ballot Pool/Group</b></li> </ul>
<p style="text-align: center;"><b>IEEE 802.16 Working Group on Broadband Wireless Access (BWA)</b></p> <p style="text-align: center;"><b>Session #8 Opening Plenary 10 June 2000 1:00-4:00 pm</b></p>	<p style="text-align: center;"><b>802.16 Officers</b></p> <ul style="list-style-type: none"> <li>• <b>Chair: Roger Marks</b></li> <li>• <b>Vice Chair: Lou Olsen</b></li> <li>• <b>Secretary: Scott Marin</b></li> <li>– <b>Acting Secretary: George Fishel</b></li> </ul>	<p style="text-align: center;"><b>Sponsor Ballot Pool/Group</b></p> <ul style="list-style-type: none"> <li>• Balloting <b>Pool</b> is being constructed</li> <li>• Future 802.16 draft standards will be balloted by a Balloting <b>Group</b> drawn from members of the 802.16 Balloting <b>Pool</b>.</li> <li>• To join the 802.16 Balloting <b>Pool</b>, use the form on the web.</li> <li>• Members of IEEE Standards Association [IEEE or CS + \$10] can participate in Ballot <b>Group</b> without paying special fee</li> </ul>
<p style="text-align: center;"><b>Session Opening</b></p> <ul style="list-style-type: none"> <li>• <b>Call to Order</b></li> <li>• <b>Welcome</b></li> </ul>	<p style="text-align: center;"><b>Schedule and Agenda</b></p> <ul style="list-style-type: none"> <li>• <b>Schedule of meetings for the week</b> <ul style="list-style-type: none"> <li>– Chair asks for unanimous consent to approve</li> </ul> </li> <li>• <b>Presentation of 802.16 Opening and Closing Plenary Agendas</b> <ul style="list-style-type: none"> <li>– Chair asks for unanimous consent to approve</li> </ul> </li> </ul>	<p style="text-align: center;"><b>Rights of Members &amp; Observers</b></p> <ul style="list-style-type: none"> <li>• <b>To examine draft standards.</b></li> <li>• <b>To participate in Working Group Letter Ballots.</b></li> <li>• <b>To examine the votes of Working Group members.</b></li> <li>• <b>To examine the Member and Observer contact databases.</b></li> </ul>
<p style="text-align: center;"><b>Welcome</b></p> <ul style="list-style-type: none"> <li>• <b>Rapid Growth</b> <ul style="list-style-type: none"> <li>– Attendance                     <ul style="list-style-type: none"> <li>• Session #4 107</li> <li>• Session #5 118</li> <li>• Session #6 126</li> <li>• Session #7 158 (+ETSI)</li> </ul> </li> <li>– Outside Interest: Web File Downloads                     <ul style="list-style-type: none"> <li>• Jan/Feb 2000 174299</li> <li>• Mar/Apr 2000 244038</li> <li>• May/Jun 2000 479076</li> </ul> </li> <li>– New Projects</li> </ul> </li> </ul>	<p style="text-align: center;"><b>Rights of All</b></p> <ul style="list-style-type: none"> <li>• <b>To subscribe to the 802.16 Email Reflector (stds-802-16) and thereby be notified of document publication, meetings, minutes, ...</b></li> <li>• <b>To post to stds-802-16 in accordance with the reflector rules.</b></li> <li>• <b>To examine documents, unless copyright concerns prohibit it.</b></li> <li>• <b>To contribute documents in response to a Call for Contributions.</b></li> <li>• <b>To attend and participate in 802.16 meetings, if registered.</b></li> <li>• <b>To join the Sponsor Balloting Pool.</b></li> </ul>	<p style="text-align: center;"><b>Exclusive Rights of Membership</b></p> <ul style="list-style-type: none"> <li>• <b>To make or second a motion at any meeting of 802.16 or its subsidiaries.</b></li> <li>• <b>To vote, if and only if present, at any meeting of 802.16 or its subsidiaries.</b></li> <li>• <b>To vote in 802.16 Working Group Letter Ballots.</b></li> <li>• <b>To vote by email on any issue involving 802.16 or its subsidiaries.</b></li> <li>• <b>To lodge complaints about Working Group operation with the 802 Executive Committee.</b></li> <li>• <b>To petition the 802 Executive Committee in writing.</b></li> </ul>

<p><b>Acquiring Membership</b></p> <ul style="list-style-type: none"> <li>• Membership is granted at each 802.16 LMSC Plenary Session to those in attendance who have participated in at least two recent 802.16 Sessions, one of which was an 802.16 LMSC Plenary Session. At that time, full membership rights begin immediately upon the request of the qualifying potential member.</li> <li>• At the end of each 802 LMSC Plenary Session, membership is lost by those who have not participated in at least two recent 802 Sessions, one of which was an 802 LMSC Plenary Session.</li> </ul>	<p><b>Librarian's Announcements</b></p> <ul style="list-style-type: none"> <li>• Need a Volunteer Librarian</li> <li>• Document collection</li> <li>• Document distribution <ul style="list-style-type: none"> <li>– Web Site</li> <li>– Flash PC card</li> <li>– CD ROM</li> <li>– Ethernet</li> <li>– No Wireless LAN (Session #9?)</li> </ul> </li> </ul>	<p><b>Legal and Anti-Trust</b></p> <ul style="list-style-type: none"> <li>• Any discussions that relate to the validity or cost of patent use shall be avoided.</li> <li>• Any discussions or any material relating to an ongoing litigation shall be avoided.</li> <li>• Any discussions of pricing or issues that would violate US antitrust laws shall be avoided.</li> </ul>
<p><b>Acquiring Observer Status</b></p> <ul style="list-style-type: none"> <li>• Individuals having participated in a recent 802.16 session are eligible to become 802.16 Observers upon request. To request Observer status, use the form on the web.</li> <li>• At the end of each 802 LMSC Plenary Session, Observer status is lost by those who have not participated in a recent 802 Session.</li> </ul>	<p><b>Membership List Update</b></p> <ul style="list-style-type: none"> <li>• List of 78 Members</li> <li>• List of 46 Potential Members <ul style="list-style-type: none"> <li>– Invited to request membership</li> </ul> </li> <li>• List of 23 Observers</li> <li>• List of 146 Potential Observers</li> </ul>	<p><b>IEEE 802.16 Patent Policy</b></p> <ul style="list-style-type: none"> <li>• IEEE 802.16 operates under the Patent Policy of the IEEE Standards Association, as set forth in Clause 6 of the IEEE-SA Standards Board Bylaws. This policy includes the statement:</li> <li>• "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 applicant's under reasonable terms and conditions for the purpose of implementing the standard."</li> </ul>
<p><b>Definitions (in brief)</b></p> <ul style="list-style-type: none"> <li>• <b>Participation:</b> attended at least 75% of the meetings held during in Session</li> <li>• <b>802.16 LMSC Plenary Session:</b> 802.16 Session coinciding with an 802 LMSC Plenary Session (March, July, and November)</li> <li>• <b>Recent 802.16 Session:</b> one of the previous four 802.16 LMSC Plenary Sessions, excluding the current one, or another 802.16 Session that took place with the period of time spanned by those four sessions</li> </ul>	<p><b>Logistics</b></p> <ul style="list-style-type: none"> <li>• <b>Registration</b> <ul style="list-style-type: none"> <li>– \$300</li> <li>– Open 8 am - 5 pm</li> <li>– Required for Member/Observer status</li> </ul> </li> <li>• <b>No 802 CD-ROM</b></li> <li>• <b>Meeting Rooms &amp; Breaks</b></li> <li>• <b>Wednesday social</b></li> </ul>	<p><b>IEEE 802.16 Patent Procedures</b></p> <p>Anyone, whether participating in IEEE 802.16 or not, should notify the Chair of any patents (granted or under application, and regardless of the assignee or the patent nationality) that may cover technology that is under consideration by or has been approved by IEEE 802.16. Such notification should be in written or electronic form (email is preferred) and need not make any statement concerning enforcement or licensing. The Chair will presume that such notification is intended for public release and will, as soon as practical, post it to the web along with other Patent Notices On File with IEEE 802.16. The Chair and the Working Group will take no position regarding the validity or applicability of any patents.</p>
<p><b>Attendance List</b></p> <ul style="list-style-type: none"> <li>• <b>Recorded at each "meeting interval"</b> <ul style="list-style-type: none"> <li>– Afternoon: Mon/Tue/Wed/Thu</li> <li>– Morning: Tue/Wed/Thu</li> <li>– Self-declared; "substantially all" of meeting</li> <li>– Session "Participation" requires participation at 75% of meeting intervals <ul style="list-style-type: none"> <li>• =5.25 intervals; will round down to 5</li> </ul> </li> </ul> </li> <li>• <b>Attendance recorded in parallel meetings</b> <ul style="list-style-type: none"> <li>– voting credit for presence at either</li> </ul> </li> <li>• <b>Attendance is public record</b> <ul style="list-style-type: none"> <li>– attendance will be reported on web</li> <li>– contact info will not be posted (just company)</li> </ul> </li> </ul>	<p><b>Quorum</b></p> <ul style="list-style-type: none"> <li>• <b>Not required</b> <ul style="list-style-type: none"> <li>– At any LMSC Plenary Session</li> <li>– By virtue of 802 Rules</li> </ul> </li> </ul>	<p><b>IEEE 802.16 Patent Policy (cont.)</b></p> <p>IEEE 802.16 interprets "in the opinion of the standards-developing committee" as "in the opinion of the members of the Working Group." Early disclosure to the Working Group participants of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and to increase the likelihood that the draft publication will be approved for publication. IEEE 802.16 strives to make such information available as soon as possible for consideration by individual members in their voting decisions. However, in its meetings and electronic forums, IEEE 802.16 does not permit discussions concerning the validity or applicability of intellectual property claims. The only role a patent claim plays in Working Group discussions concerns ensuring compliance to the IEEE 802.16 Patent Policy and Procedures. Justification for the inclusion of technology is limited to the technical merits of the technology.</p>
<p><b>Secretary's Announcements</b></p> <ul style="list-style-type: none"> <li>• <b>George Fishel (Acting Secretary)</b> <ul style="list-style-type: none"> <li>– Attendance book <ul style="list-style-type: none"> <li>• Members, Potential Members, Observers <ul style="list-style-type: none"> <li>– Pre-Printed</li> </ul> </li> <li>• Others: staple business card</li> <li>• Initial and keep the book moving</li> </ul> </li> <li>– Voting tokens <ul style="list-style-type: none"> <li>• In book for Members and Potential Members</li> <li>• Attach to paper badge (not to plastic)</li> <li>• Raise to vote</li> </ul> </li> </ul> </li> </ul>	<p><b>Individuality</b></p> <ul style="list-style-type: none"> <li>• <b>In IEEE standards meetings, participation is by individual</b> <ul style="list-style-type: none"> <li>– you do not represent a company or organization</li> </ul> </li> <li>• <b>Membership belongs to the individual, not an organization, and may not be transferred.</b></li> </ul>	<p><b>IEEE 802.16 Patent Procedures</b></p> <p>Written contributions to IEEE 802.16 standards development will not be accepted without an acknowledgement of familiarity with the IEEE 802.16 Patent Policy and Procedures. This acknowledgement will be part of the mandatory contribution cover sheet and will read:</p> <p><b>"The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures (Version #) ...</b></p> <p>Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site."</p>

<p><b>IEEE 802.16 Patent Procedures</b></p> <p>The Chair, once formally notified and once a potentially relevant draft standard exists, shall write to the identified party and request that a Letter of Assurance be filed with the Chair for forwarding to the IEEE-SA Patent Committee, in accordance with the instructions in the IEEE-SA Standards Board Operations Manual. A sample request letter and response letter are available. When the Patent Committee has accepted the letter as a Letter of Assurance, information regarding the letter will be indexed in the Records of IEEE Standards-Related Patents.</p>	<p><b>802.16 Projects</b></p> <ul style="list-style-type: none"> <li>• <b>802.16.1 (Standard)</b> <ul style="list-style-type: none"> <li>– Air Interface for Fixed Broadband Wireless Access Systems (10-66 GHz)</li> </ul> </li> <li>• <b>802.16.2 (Recommend Practice)</b> <ul style="list-style-type: none"> <li>– Coexistence of Broadband Wireless Access Systems</li> </ul> </li> <li>• <b>802.16.3 (Standard)</b> <ul style="list-style-type: none"> <li>– Air Interface for Fixed Broadband Wireless Access</li> <li>– Licensed bands, 2-11 GHz</li> </ul> </li> </ul>	<p><b>802.16.1 Status</b></p> <ul style="list-style-type: none"> <li>• Following “Development Plan for 802.16.1 Air Interface Standard”(IEEE 802.16-99/05) [approved by Letter Ballot]</li> <li>• First proposals at Session #4 <ul style="list-style-type: none"> <li>–19 PHY, 15 MAC</li> </ul> </li> <li>• Massive Consolidation: <ul style="list-style-type: none"> <li>–Accepted PHY Proposal at Session #7 <ul style="list-style-type: none"> <li>• Two modes</li> <li>• Interest in further consolidation</li> </ul> </li> <li>–Single MAC Proposal for Session #8</li> </ul> </li> </ul>
<p><b>Approval of Minutes</b></p> <ul style="list-style-type: none"> <li>• <b>Chair asks unanimous consent to:</b> <ul style="list-style-type: none"> <li>–approve Document IEEE 802.16-00/14r1 (Minutes of Session #7) as modified</li> <li>–approve Working Group decision made at Session #7 to accept IEEE 802.16-00/12 as the Minutes of 802.16 Session #6</li> </ul> </li> </ul>	<p><b>802.16 Study Group</b></p> <ul style="list-style-type: none"> <li>• <b>Wireless High-Speed Unlicensed Metropolitan Area Networks</b></li> <li>• <b>WirelessHUMAN™ standard</b> <ul style="list-style-type: none"> <li>–WirelessHUMAN.org</li> </ul> </li> <li>• Chartered 9 March 2000</li> <li>• Expires 14 July 2000 <ul style="list-style-type: none"> <li>–Unless renewed on 13 July</li> </ul> </li> </ul>	<p><b>802.16.1 Goals for Week</b></p> <ul style="list-style-type: none"> <li>–Stay on Development Plan <ul style="list-style-type: none"> <li>• Initiative Working Group Letter Ballot</li> <li>• Seek approval at Closing Plenary</li> </ul> </li> <li>–PHY <ul style="list-style-type: none"> <li>• Consider proposed PHY consolidation</li> <li>• Approve FEC plan</li> </ul> </li> <li>–MAC <ul style="list-style-type: none"> <li>• Approve single MAC submission</li> </ul> </li> <li>–Editorial <ul style="list-style-type: none"> <li>• Consolidate PHY &amp; MAC into document</li> </ul> </li> </ul>
<p><b>Chair’s Status Report</b></p> <ul style="list-style-type: none"> <li>• The IEEE 802.16 Working Group on Broadband Wireless Access Standards is creating the <b>WirelessMAN™</b> family of standards for wireless metropolitan area networks</li> <li>• Mission: <b>“to develop standards and recommended practices to support the development and deployment of fixed broadband wireless access systems”</b></li> </ul>	<p><b>802 Report</b></p> <ul style="list-style-type: none"> <li>• <b>9 March 2000</b> <ul style="list-style-type: none"> <li>–802.16.3 PAR Approved</li> <li>–WirelessHUMAN SG Approved</li> </ul> </li> <li>• <b>10 July 2000</b> <ul style="list-style-type: none"> <li>–1 PAR submitted <ul style="list-style-type: none"> <li>• 802.11 High Rate (20 Mbit/s)</li> <li>• comments due 5 pm Tuesday</li> </ul> </li> </ul> </li> </ul>	<p><b>802.16.2</b></p> <ul style="list-style-type: none"> <li>–<b>Coexistence of Broadband Wireless Access Systems</b></li> <li>–<b>Chair: Leland Langston</b></li> <li>–<b>Editor: Rebecca Chan</b></li> </ul>
<p><b>Basic Process</b></p> <ul style="list-style-type: none"> <li>• <b>PAR: Project Authorization Request</b> <ul style="list-style-type: none"> <li>–Guiding document for IEEE standards development project</li> <li>–First 802.16 PAR written in Jan. 1999</li> </ul> </li> <li>• <b>IEEE 802 Oversees Our Work</b></li> <li>• <b>Working Group produces Draft in accordance with PAR</b> <ul style="list-style-type: none"> <li>–Working Group Letter Ballot</li> </ul> </li> <li>• <b>Sponsor Letter Ballot</b> <ul style="list-style-type: none"> <li>–Reviews draft</li> <li>–Open to interested individuals</li> </ul> </li> </ul>	<p><b>IEEE-SA Report</b></p> <ul style="list-style-type: none"> <li>• Marks attended Standards Board meetings of 27-30 March 2000 <ul style="list-style-type: none"> <li>–802.16.3 PAR Approved</li> <li>–802.16 Patent Policy developed with IEEE-SA Patent Committee</li> </ul> </li> <li>–Attended Registration Authority Committee (RAC) meeting <ul style="list-style-type: none"> <li>• EUI-64 discussions continue</li> <li>• Meeting again: Tuesday 3-6 pm</li> <li>• Volunteers to represent 802.16?</li> </ul> </li> </ul>	<p><b>802.16.3</b></p> <ul style="list-style-type: none"> <li>• <b>Broadband Wireless Access Systems in Licensed Bands from 2 to 11 GHz</b></li> <li>• <b>Chair: Brian Kiernan</b></li> <li>• <b>Vice Chair: Carl Bushue</b></li> <li>• <b>Secretary: Dean Chang</b></li> <li>• <b>Functional Requirements</b> <ul style="list-style-type: none"> <li>–Brian Petry</li> <li>–George Fishel</li> </ul> </li> </ul>
<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• <a href="http://ieee802.org/16">http://ieee802.org/16</a></li> <li>• <a href="http://wirelessman.org">http://wirelessman.org</a></li> <li>• <b>Reflector</b> <ul style="list-style-type: none"> <li>–Sign up on web</li> <li>–Read archives on web</li> </ul> </li> </ul>	<p><b>802.16.1</b></p> <ul style="list-style-type: none"> <li>• <b>Air Interface for Fixed Broadband Wireless Access Systems</b></li> <li>• <b>10-66 GHz</b></li> <li>• <b>Chair: Roger Marks</b></li> <li>• <b>Editor: Jim Mollenauer</b></li> <li>• <b>PHY Chair: Jay Klein</b></li> <li>• <b>MAC Chair: Carl Eklund</b></li> </ul>	<p><b>WirelessHUMAN™ Study Group</b></p> <ul style="list-style-type: none"> <li>• <b>Wireless High-Speed Unlicensed Metropolitan Area Networks</b></li> <li>• <b>Chair: Durga Satapathy</b></li> <li>• <b>Secretary: Sanjay Moghe</b></li> <li>• Chartered by IEEE 802 at Session #6</li> <li>• To coordinate with 802.11 and 802.15</li> </ul>

<p><b>Charge to Task Groups</b></p> <ul style="list-style-type: none"> <li>• Complete the task on your agenda <ul style="list-style-type: none"> <li>– Update agenda on bulletin board</li> </ul> </li> <li>• Prepare for next meeting <ul style="list-style-type: none"> <li>– Call for Contributions, etc.</li> </ul> </li> <li>• Prepare for Closing Plenary <ul style="list-style-type: none"> <li>– All motions to be in writing</li> </ul> </li> <li>• Document everything <ul style="list-style-type: none"> <li>– submit documents before you leave</li> <li>– provide document index on bulletin board</li> </ul> </li> <li>• Presentations to Librarian 2 hours in advance</li> </ul>	<p><b>Future 802.16 Sessions</b></p> <p><b>LMSC Plenary Sessions</b></p> <ul style="list-style-type: none"> <li>• Session #10 <ul style="list-style-type: none"> <li>– November 6-10, 2000</li> <li>– Tampa, Florida, USA</li> </ul> </li> <li>• Session #12 <ul style="list-style-type: none"> <li>– March 12-16, 2001</li> <li>– Hilton Head, South Carolina, USA</li> <li>– With IEEE-SA Standards Board</li> </ul> </li> <li>• Session #14 <ul style="list-style-type: none"> <li>– July 9-13, 2001</li> <li>– Portland, Oregon, USA</li> </ul> </li> </ul>
<p><b>Voting in Task Groups</b></p> <ul style="list-style-type: none"> <li>• Only 802.16 Voting Members may vote in task Group meetings <ul style="list-style-type: none"> <li>– Show Voting Token</li> </ul> </li> <li>• All those present are eligible to vote at Study Group meetings</li> </ul>	<p><b>Future 802.16 Sessions</b></p> <p><b>Interim Sessions</b></p> <ul style="list-style-type: none"> <li>• Session #9 <ul style="list-style-type: none"> <li>– September 11-15, 2000</li> <li>– Denver, Colorado, USA</li> <li>– with RAWCON2000 <ul style="list-style-type: none"> <li>• IEEE Radio and Wireless Conference</li> </ul> </li> </ul> </li> <li>• Session #11 <ul style="list-style-type: none"> <li>– January 22-26, 2001, Tel Aviv, Israel?</li> <li>– Hosted by BreezeCOM?</li> <li>– Proposal by Naftali Chayat</li> </ul> </li> </ul>
<p><b>ETSI BRAN HIPERACCESS</b></p> <ul style="list-style-type: none"> <li>• Co-located meeting with Session #7 <ul style="list-style-type: none"> <li>– Two joint meetings, plus committee meetings</li> </ul> </li> <li>• Made an agreement on a process potentially leading to a common standard with 802.16.1</li> <li>• 802.16 approved at Closing Plenary on 5 May</li> <li>• Chair developed IEEE-SA Approval Plan <ul style="list-style-type: none"> <li>– Notified IEEE-SA of urgency</li> </ul> </li> <li>• IEEE-SA approved by 30 May</li> <li>• Considered by ETSI and BRAN only after 20 June</li> <li>• On 3 July, ETSI BRAN informed Chair of ETSI request for major revision of agreement</li> <li>• Will consider this week; need to resubmit to IEEE</li> <li>• Significant delay in implementation</li> </ul>	<p><b>Future 802.16 Sessions</b></p> <p><b>Interim Sessions</b></p> <ul style="list-style-type: none"> <li>• Session #13 <ul style="list-style-type: none"> <li>– May 2001</li> <li>– Joint with 802.11 and 802.15?</li> <li>– Orlando, Florida, USA?</li> </ul> </li> </ul>
<p><b>ITU-R</b></p> <p>– José Costa, Liaison</p>	<p><b>New Business</b></p> <ul style="list-style-type: none"> <li>• Request for New Business items</li> </ul>
<p><b>Regulatory Affairs Committee</b></p> <ul style="list-style-type: none"> <li>• <b>Chair: Gene Robinson</b></li> </ul>	<p><b>Adjournment</b></p> <ul style="list-style-type: none"> <li>• Chair asks unanimous consent to adjourn this meeting of Working Group 802.16 until the Midweek Plenary <ul style="list-style-type: none"> <li>– (5-6 pm on Wednesday, 12 July 2000)</li> </ul> </li> </ul>



## 802.16.1 PHY Midweek Presentation

### Resolved Issues

- Revised PHY draft
  - Initial revision based on Jeff's document
  - Second revision due to FEC impact

### FEC

- Uplink (both Modes)
- Downlink (Mode B)
- Resolution:
  - Flexible FEC parameterization
    - Part of the PHY burst profile characteristics
  - Mandatory FEC scheme based on Reed-Solomon
    - Proper concatenation, dependent on target coding rate and block size
  - Optional FEC scheme based on BTC
- Capability report by Terminal

## 802.16.3 Sub10 Midweek Summary

### 802.16.3 Mid-Week Summary

- Seven Contributions/Presentations
- All submitted comments on Functional Requirements Document resolved – System Reference Model and QOS to be addressed tomorrow
- Air Interface Key Characteristics list agreed upon – will be the basis of a Call for Contributions on Characteristics and associated Evaluation Criteria
- Development Plan to be addressed tomorrow

## 802.16.3 Ad Hoc Group considering ISTO Press Release

<p><b>Report of an 802.16.3 ad hoc group that considered a press release from the IEEE-ISTO</b>          Brian Petry          3Com</p>	
<p>Ad-Hoc Group to consider and possibly respond to the IEEE-ISTO announcement:</p>	
<p>"BROADBAND WIRELESS INTERNET ACCESS GAINS HIGH SPEED STANDARD - IEEE-ISTO          Sponsored Multivendor Broadband Wireless Internet Forum to Convene Open Meeting on July 26"</p>	
<a href="mailto:mshahar@vyvo.co.il">mshahar@vyvo.co.il</a>	Menashe Shahar
<a href="mailto:trinkwon@compuserve.com">trinkwon@compuserve.com</a>	David Trinkwon
<a href="mailto:randall_schwartz@radixtek.com">randall_schwartz@radixtek.com</a>	Randall Schwartz
<a href="mailto:afreed@tadirantele.com">afreed@tadirantele.com</a>	Avi Freedman
<a href="mailto:carl.bushue@mail.sprint.com">carl.bushue@mail.sprint.com</a>	Carl Bushue
<a href="mailto:grfishel@pa.net">grfishel@pa.net</a>	George Fishel
<a href="mailto:mariannag@breeze.com.co.il">mariannag@breeze.com.co.il</a>	Marianna Goldhammer
<a href="mailto:adi_nativ@radwin.com">adi_nativ@radwin.com</a>	Adi Nativ
<a href="mailto:raythomas@lucent.com">raythomas@lucent.com</a>	Ray Thomas
<a href="mailto:cshirali@vyvo.com">cshirali@vyvo.com</a>	Chet Shirali
<a href="mailto:brian_petry@3com.com">brian_petry@3com.com</a>	Brian Petry
<p>1. Overlapping and/or conflicting statements between the aforementioned press release and the 802.16.3 charter (PAR and 5 criteria):</p> <ul style="list-style-type: none"> <li>⟨ Note this quote from the IEEE-ISTO web site: <a href="http://www.ieee-isto.org/overview.html">http://www.ieee-isto.org/overview.html</a>: "Groups organized within the IEEE ISTO are able to publish ISTO industry group standards. The resulting standards will have the instant global recognition associated with the IEEE name and brand identity, and can then be submitted, as appropriate, to other standards bodies for approval or adoption (e.g., IETF, ISO, IEC, IEEE, ISO/IEC JTC1, W3C)..."</li> <li>⟨ The press release mentions the following concepts that conflict/overlap with 802.16.3:</li> <li>⟨ "...cost effective broadband wireless access"</li> </ul> <p>Note the 802.16.3 PAR title: Telecommunications and Information Exchange Between Systems - LAN/MAN Specific Requirements - Air Interface for Fixed Broadband Wireless Access Systems in Licensed Bands from 2 to 11 GHz</p> <p>Note the 802.16.3 purpose statement: To enable rapid worldwide deployment of innovative, cost-effective and interoperable multi-vendor broadband wireless access products.</p> <ul style="list-style-type: none"> <li>⟨ "...streaming audio and video...voice"</li> </ul> <p>Note this statement in the 802.16.3 PAR: "The specification enables access to data, video, and voice services with a specified quality of service in licensed bands designated for public network access."</p> <ul style="list-style-type: none"> <li>⟨ "... Vector OFDM"</li> </ul>	

## Appendix C, Closing Plenary Agenda and Presentations

### Closing Plenary Meeting Agenda

Thursday, 13 July 2000, 15:30-17:00

<b>Opening</b>		<b>15:00</b>
Call to Order	Marks	I
Approval of modified Closing Plenary Agenda	Marks	V
<b>Announcements</b>		<b>15:05</b>
Registration	Marks	I
Attendance and Membership	Durand	I
Documents	Marks	I
Other	Marks	I
<b>Liaison</b>		<b>15:10</b>
ETSI BRAN Agreement {approval of liaison letters}	Marks	D,V
ETSI <11 GHz {approval of liaison letter}	Kiernan	D,V
ETSI TM4 Agreement {approval of liaison letter}	Langston	D,V
<b>802.16.1</b>		<b>15:40</b>
Report	Marks	I
802.16.1 PHY	Klein	I
802.16.1 MAC	Eklund	I
Other Motions	Marks	V
Plans	Marks	I
<b>802.16.2</b>		<b>15:50</b>
Report	Langston	I
Plans	Langston	I
Motions	Langston	V
<b>802.16.3</b>		<b>16:05</b>
Report	Kiernan	I
Plans	Kiernan	I
Approval of letter regarding ISTO	Marks	V
Other Motions	Kiernan	V
<b>WirelessHUMAN</b>		<b>16:30</b>
Report	Satapathy	I
Plans	Satapathy	I

Motion to Renew Study Group	Satapathy	V
<b>802 Issues</b>		<b>16:45</b>
Other	Marks	I
<b>Future Meetings</b> {agenda modification}		<b>16:55</b>
Session #9: 11-15 Sept. 2000, Denver, CO USA	Marks	I
Session #11: 22-26 Jan 2001 Tel Aviv (w/ 802.11, 802.15, BRAN?)	Chayat	V
Session #13: 7-11 May 2001 (w/802.11, 802.15, BRAN?)	Marks	D
<b>New Business</b>		<b>16:58</b>
<b>Closing</b>		<b>17:00</b>
Adjournment of Closing Plenary and Session #8	Marks	V

I=Information D=Discussion V=Vote

## Draft Liaison Letter to ETSI BRAN

### Motion:

To send a liaison contribution to ETSI BRAN to thank them for their liaison (Doc. IEEE 802.161-00/18) and to inform them of the draft functional requirements for information and comment (Doc. IEEE 802.16.3-00/02r3).

### Proposed Text of Liaison:

IEEE 802.16 (Broadband Wireless Access) thanks ETSI BRAN for the timely liaison contribution informing us of your new work item on “FWA below 11GHz” (Document BRAN19d111 or IEEE 802.161-00/18) and your meeting of 25 August 2000.

IEEE 802.16 is also developing a standard for BWA below 11 GHz and you can obtain a copy of the draft “Functional Requirements for the 802.16.3 Interoperability Standard” for your information and comment (Document IEEE 802.16.3-00/02r3) from our Web site. We would appreciate your views and comments in time for our next meeting, which will be held on 12-15 September 2000 in Denver, CO. At that meeting we plan to finalize the Functional Requirements.

We look forward to work with you in close cooperation with the aim of achieving maximum commonality and worldwide standards.

Contact person: David Trinkwon

## Significant Motions passed by 802.16.1

### 802.16.1 Motion (Technical)

- To resolve to develop an 802.16.1 MAC draft specification on the basis of IEEE 802.16.1mc-00/21r1

### 802.16.1 Motion (Technical)

- To initiate an 802.16.1 Final Task Group Review, as follows:
  - The Review shall be carried out as an electronic comment submittal process soliciting specific change requests.
  - The Review shall begin by 4 August 2000.
  - The Review period shall close on 1 September.
  - The draft to be reviewed shall be a single coherent document produced by an 802.16.1 Editorial Team based on documents IEEE 802.16.1p-00/07r2, 802.16.1mc-00/21r1, and 802.16s-99/00r1. The Team may make editorial and self-consistency revisions. It will complete "TBD" items and include an index of those left open.
  - If the editorial team fails to submit such a document by August 3, the Final Task Group Review will take place on the basis of documents IEEE 802.16.1p-00/07r2, 802.16.1mc-00/21r1 or editorial revisions of those documents.
  - Comment resolution shall be scheduled for Session #9. The first order of business shall be to resolve all open "TBD" items. The intent is to initiate a Working Group Letter Ballot based on a draft approved by the Task Group and Working Group at Session #9.

### 802.16.1 Motion (Procedural)

- To form 802.16.1 Editorial Team of the following individuals:
  - M Sater
  - P Stambaugh
  - M Mollnauer
  - M Zuniga
  - M Starwood
  - P Klein
  - O Petry
  - M Guillemette
  - P D. Williams
  - P Ran
  - M Eklund
  - P Foerster
  - M Stamtelos
- M=MAC, P=PHY, O=OVERALL

## 802.16.1 PHY TG Closing Plenary Presentation

### IEEE 802.16.1 - PHY TG

*Jay Klein*  
*Ensemble Communications*

### Resolved Issues

- Revised PHY draft
  - Initial revision based on Jeff's document
  - Second revision due to FEC impact
  - Editorial committee formed to clean-up TBD issues and "synchronize" with MAC document

### The FEC Issue

- Uplink
  - Burst (TDMA)
- Downlink
  - Mode A, Continuous stream, fixed modulation
  - Mode B, Burst similar to the uplink
- Resolution:
  - Downlink Mode A
    - RS+CC, Interleaving
  - Uplink (both modes) and Downlink Mode B
    - Flexible PHY burst profiles

### Flexible Burst Profiles

- Enhance the adaptive modulation concept
- Modulation
  - QPSK, 16QAM and 64QAM (optional)
- FEC
  - Reed Solomon based with programmable parameters
    - Block size
    - Correction capability (t)
    - Concatenation scheme (none, parity or BCC)
  - Allows future evolution
    - Optional BTC (Block Turbo Codes) use included in draft
    - Other codes could be defined

### Terminal Capability Report

- Terminal must report at registration enhanced capabilities
  - Highest modulation order
  - Support of optional FEC schemes such as BTC
  - Support of block shortening
- Base station centralizes decisions related to capability
  - Example: Terminal may report 64QAM demod capability yet base station dictates QPSK sector wide

### Validation

- Even if we have a draft modeling is still important !!!
  - Allows technical evaluation of requested draft changes
- Re-initiating call for contributions
  - All modeling issues to be resolved in the September meeting

### Special thanks

- FEC Ad-hoc committee
  - Eric Jacobsen & John Liebetreu

## 802.16.2 Coexistence Closing Plenary Presentation

IEEE 802.16.2: Coexistence Task Group  
Report  
13 July 2000  
by Leland Langston  
Coexistence Task Group Chair

JUL 13 2000

Motion

- The 802.16.2 task group on coexistence for BWA systems wishes to make a motion to submit a liaison letter to ETSI TM4 thanking them for their input, requesting additional information and offering to submit a copy of our document in October.

JUL 13 2000

Overall Status

- Practice Document completely reviewed and changes recommended for several sections.
- Modeling results reviewed with results incorporated into document as appropriate.
- The task group believes that the current effort is on schedule for initiating a letter ballot in November.

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LaJolla Meeting Summary

- Three formal contributions presented. Also two updates on simulation and modeling results presented.
- Practice document was updated with Section 4 and Section 7 text. Various sections of the document were reviewed and updated. The section on antennas was significantly discussed with agreement being reached on many key areas with updates planned by end of July.
- ETSI TM4 work summarized; letter drafted to TM4 requesting additional information.

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LaJolla Meeting (cont)

- Timeline reviewed and updated with plan to complete draft at the November plenary.
- Decision made to NOT convene an interim meeting prior to the Denver meeting, but instead use teleconferencing to review work.
- Rebecca Chan resigned as editor. Also, the task group feels that a co-chair and a vice chair should be appointed.

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Recommendations for New Members of Coexistence Task Group Leadership Team

- The 802.16.2 Task Group respectfully recommends that the Chairman make the following additions to the leadership team.
  - Co-Chair: Andy McGregor
  - Vice-Chair: Remi Chayer
  - Editor: Vito Scaringi

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## 802.16.2 Revised Timeline

Date	Days	Meeting Location	MileStone
08-Oct-99			1 <sup>st</sup> Rough draft posted
22-Oct-99	14		Meeting 4 contribution deadline
04-Nov-99	13		Comments due
08-Nov-99	4	#4: Kauai, HI	
17-Dec-99	39		2 <sup>nd</sup> Rough draft posted
3-Jan-00	17		3 <sup>rd</sup> Rough draft posted
10-Jan-00	7	#5: Dallas, TX	
20 Jan 00			Teleconf at 10:00 am CST
27 Jan 00			Teleconf at 10:00 CST
3 Feb 00			Teleconf 10:00 am CST
24 Feb 00			4 <sup>th</sup> Draft Posted; Call for comments
28 Feb 00			Closing date for comments
06-Mar-00	56	#6: Albuquerque, NM	Work completed on practice doc; major holes/problems ident.
10-Mar-00	4		5 <sup>th</sup> Draft Posted; Call for comments
		Telecon (date TBD)	Complete initial model for evaluating coexistence
		Telecon (date TBD)	Evaluation of antenna section of practice
19-20 Apr 00	45	#6A: Montreal, Canada	Interim mtg to revise drft doc and review modeling results
24 Apr 00			
01-May-00	10	#7: Washington DC	Review model and initial results; revise practice doc
8-May-00	8		
15-May-00	7	Teleconference	-Discuss the 5 <sup>th</sup> Draft discussion proposals needed by sections
26-May-00	11	Teleconference	-review contributions including simulation results -agenda for next interim meeting -Post sixth draft
12 June 2000	17	#7.5 Ottawa	- Fill in TBD and blanks in the 6 <sup>h</sup> Draft
1-July-2000	18		Call for comments on Draft 6 of practice
10-13 July 2000	13	#8: La Jolla, CA	-Review call for comments -review/finalize contents including coordination process -finalize organization of structure (organization) of document in preparation for publication of 7 <sup>th</sup> draft
28-Jul-00	15		-Publish 7 <sup>th</sup> Draft on web site and distribute contributions
3-Aug-00	6	Teleconference	Review 7 <sup>th</sup> Draft and contributions;
24 – Aug - 00	7		Publish eight draft on web
29-Aug-00	5	Teleconference	Review comments on 8 <sup>th</sup> Draft; update draft
11-13 Sept 00	14	#9: Denver, CO	Review comments and develop document content
14 Sept 00	30	#9	Joint 802.16.1 & .2 Session to present summary of draft doc
20 Sept 00	6		Generate ninth draft and publish on web; call for comments
11-13 Oct-00	21	#9.5 TBD	Final review of comments; finalize inputs for draft doc
23-Oct-00	10		Publish final draft and issue call for comments
06-Nov-00	14	#10: Tampa, FL	Draft Complete – Task Group, Release for letter ballot (802.16)
15-Dec-00	39		Completion of first ballot results in
9-Jan-01	24	Teleconference	Review comments
22 Jan-01	13	#10.5 TBD	Resolve comments
29-Jan-01	7		Begin re-circulation
15-Feb-01	17		Second round balloting complete
22-Feb-01	7		Draft Complete – Working Group, Electronic Request for spons ballot (802)
12-Mar-01	19	#11 Hilton Head, SC	Sponsor ballot approval - Draft Standard
15-Mar-01	3		Begin sponsor ballot
16-Apr-01	31		First sponsor ballot completed
30-Apr-01	14		Begin re-circulation
07-May-01	7		Re-circulation completed
10-May-01	3		Complete official draft document
XX-May 01		#12	Coexistence Party
			Submit to IEEE SA

## 802.16.3 Closing Plenary Presentation

### 802.16.3 Summary - Session #8

- Seven Contributions/Presentations
- All submitted comments on Functional Requirements Document resolved including the System Reference Model - QOS aspects are still under discussion – Additional Call for Comments to be issued on revised document
- Initial Air Interface Key Characteristics list agreed upon  
It is the basis of a Call for Contributions on Characteristics and associated Evaluation Criteria (802.16.3-00/09)
- Development Plan approved by the Task Group (802.16.3-00/03r2) – To be issued for Letter Ballot

### 802.16.3 Summary - Session #8

- Reviewed ETSI BRAN Liaison – drafted proposed response (Motion)
- Prepared input for potential LMSC response to IEEE-ISTO press release on BWIF (Motions)

## Appendix D, Attendance at Session #8

802.16 Session #8 was an plenary session. It was attended by 165 people. Attendance of at least 5 of 7 meeting intervals was required for the 75% criteria for participation. Please contact the 802.16 secretary if you feel your attendance has been recorded incorrectly.

The follow 128 people attended 5 or more intervals:

Aboukarr, Bakri  
 Abu-Dayya, Adnan  
 Akhter, Mohammad  
 An, Song  
 Avivi, Eli  
 Baragar, Ian  
 Baseghi, Behshad  
 Baugh, Rick  
 Belfiore, Carlos  
 Benyamin-Seeyar, Anader  
 Bilotta, Thomas  
 Boucher, Luc  
 Boyce, Andy  
 Bushue, Carl  
 Buskila, Baruch  
 Chan, Rebecca  
 Chayat, Naftali  
 Chayer, Rémi  
 Choi, Hoon  
 Condie, Mary  
 Cornelius, James  
 Costa, José  
 Cummings, George  
 Doherty, Edward  
 Dotan, Amos  
 Duan, Jining  
 Durand, Roger  
 Eidson, Brian  
 Eilts, Henry  
 Eklund, Carl  
 Eo, Soo  
 Fadavi, Jalil  
 Fishel, George  
 Florea, Adrian  
 Foerster, Jeffrey  
 Fredrickson, Lisa  
 Freedman, Avraham  
 Gallagher, Vijaya  
 Garrison, G. Jack  
 Germon, Richard  
 Goldhammer, Marianna  
 Grier, Ian  
 Guillemette, Phil  
 Gupta, Rakesh  
 Hadad, Zion

Haine, John  
 Halachmi, Baruch  
 Hamilton, Michael  
 Hammons, Jr., A. Roger  
 Hosur, Srinath  
 Hou, Victor  
 Hum, Coleman  
 Hunter, Wayne  
 Jacobsen, Eric  
 Jamali, Hamadi  
 Jevremovic, Vladan  
 Ji, Michael  
 Kang, Inchul  
 Kasey, Allen  
 Kiernan, Brian  
 Kim, John  
 Kitroser, Itzik  
 Klein, Allan  
 Klein, Jay  
 Kolze, Thomas  
 Kostas, Demosthenes  
 Kumagai, Tomoaki  
 Kwak, Byung-Jae  
 Langston, J. Leland  
 Lavie, Israel  
 Lazaris-Brunner, Ken  
 Leiba, Yigal  
 Lewis, Barry  
 Licardie, Sergio  
 Lu, Willie  
 Lucas, Fred  
 Lycklama, Heinz  
 Marks, Roger  
 McGregor, Andy  
 Meyer, Ronald  
 Middleton, Andrew  
 Mitlin, Vlad  
 Mody, Apurva  
 Mollenauer, James  
 Monk, Anton  
 Nadiv, Ron  
 Nativ, Adi  
 Ohmoto, Ryutaro  
 Padan, Uzi  
 Park, Yunsang  
 Pawlowski, Chris  
 Petry, Brian  
 Pleasant, Wayne  
 Rafie, Manouchehr

Ran, Moshe  
 Reible, Stanley  
 Reshoff, Guy  
 Rhodes, Valentine  
 Ribner, David  
 Robinson, Gene  
 Roehr, Walt  
 Sater, Paul  
 Sater, Glen  
 Scaringi, Vito  
 Schwartz, Randall  
 Shahar, Menashe  
 Shirali, Chet  
 Son, Jung  
 Soto, Walter  
 Stamatelos, George  
 Stambaugh, Karl  
 Stanwood, Ken  
 Struhsaker, Paul  
 Sugimoto, Hiroki  
 Tateishi, Kimiya  
 Thomas, Raymond  
 Thurnhofer, Stefan  
 Tomaszewski, Carlos  
 Trinkwon, David  
 Wachira, Muya  
 Wang, Chao-Chun  
 Whitehead, Philip  
 Williams, David  
 Williams, Richard  
 Ye, Huanchun  
 Yurtkuran, Erol  
 Zeng, Chaoming  
 Zuniga, Juan

Fisher, Reed  
 Foster, Robert  
 Fukui, Yoshiki  
 Grell, Conrad  
 Kardontchik, Jaime  
 Kasslin, Mika  
 Nadeau, Jim  
 Nuber, Ray  
 Polley, Mike  
 Prasad, Anand  
 Redfern, Denis  
 Ruppel, Clemens  
 Safavi, Saeid  
 Satapathy, Durga  
 Shih, Minshine  
 Smith, Steven  
 Stewart, Michael  
 Sumi, David  
 Takanashi, Hitoshi  
 Van der Star, Jack  
 Wang, Xiaofeng  
 Ward, Robert  
 Whiting, Robert  
 Wilson, Richard  
 Wu, Chien-Ting  
 Yang, Paul  
 Young, Albert

The following 37 people attended between 1 and 4 intervals:

Akahane, Masaaki  
 Anderson, Tom  
 Atkinson, Glenn  
 Blaney, Tim  
 Burkhardt, Arthur  
 Campbell, Graham  
 Currivan, Bruce  
 Doherty, Gary  
 Doo, Dustin  
 Fan, John

## Appendix E, Change in Membership

No Members were lost as a result of Session #8. The following 32 individuals became 802.16 Members when the role was updated following Session #8:

Abu-Dayya, Adnan	Halachmi, Baruch	Reible, Stanley
Akhter, Mohammad	Hammons, Jr., A. Roger	Rhodes, Valentine
Baragar, Ian	Jacobsen, Eric	Ribner, David
Baseghi, Behshad	Jamali, Hamadi	Satapathy, Durga
Benyamin-Seeyar, Anader	Kang, Inchul	Sater, Glen
Bilotta, Thomas	Kasslin, Mika	Stamatelos, George
Bushue, Carl	Klein, Allan	Stanwood, Ken
Condie, Mary	McGregor, Andy	Tateishi, Kimiya
Dotan, Amos	Moghe, Sanjay	Trinkwon, David
Foster, Robert	Ohmoto, Ryutaro	Wachira, Muya
Grell, Conrad	Pleasant, Wayne	

The following 76 individuals were Members prior to Session #8 and continue in that status:

Arefi, Reza	Germon, Richard	Liebetreu, John	Stambaugh, Karl
Arnstein, Donald	Goldhammer, Marianna	Lindh, Lars	Struhsaker, Paul
Arrakoski, Jori	Guillemette, Phil	Lu, Willie	Tzerefos, Polychronis
Arunachalam, Arun	Hadad, Zion	Lucas, Fred	Van der Star, Jack
Baldo, Paolo	Hatim, Baya	Maghera, Mohan	van Waes, Nico
Boucher, Luc	Hunter, Wayne	Marin, J. Scott	Varma, Subir
Chayat, Naftali	Jevremovic, Vladan	Marks, Roger	Wang, Chao-Chun
Chayer, Rémi	Jorgensen, Jacob	Mertsching, Marcus	Ward, Robert
Child, Skyler	Khanna, Amarpal	Mollenauer, James	Whitehead, Philip
Cornelius, James	Kiernan, Brian	Monk, Anton	Winslow, Steve
Costa, José	Klein, Jay	Myers, William	Yee, Jung
Currivan, Bruce	Kolze, Thomas	Olsen, Louis	Yurtkuran, Erol
Doucet, Keith	Kostas, Demosthenes	Park, Yunsang	Zhang, Genzao
Duhamel, Robert	Langston, J. Leland	Petry, Brian	Zhang, Wei
Durand, Roger	Lazaris-Brunner, Ken	Quinn, Patrick	Zuniga, Juan Carlos
Eklund, Carl	Lee, Allan	Ran, Moshe	
Evans, Allan	Leiba, Yigal	Robinson, Gene	
Falconer, David	Levin, Gregg	Sanders, Ray	
Fishel, George	Lewis, Barry	Schafer, David	
Foerster, Jeffrey		Shahar, Menashe	
Garrison, G. Jack		Shirali, Chet	