

IEEE 802.16 Session #9 Report



[Session #9](#) of the [IEEE 802.16 Working Group on Broadband Wireless Access](#) took place on 11-15 September 2000 in Denver, Colorado, USA. The meeting was notable for major progress in all Task Groups and for a Working Group decision to use a single MAC across all projects.

Task Group 1 (TG1): Air Interface for 10-66 GHz

TG1 resolved the [315 comments](#) received in response to the Final Task Group Review of its working version ([802.16.1-00/01](#)) of the IEEE 802.16.1 air interface (10-66 GHz). The MAC team also:

- Removed PHY dependence from the MAC
- Added features useful for TG3 requirements
- Addressed TG3 concerns in a [document](#)
- Agreed to adopt of EUI-48 addresses instead of EUI-64
- Added error control to the MAC layer
- Combined the Burst FDD and FSDD modes into a single mode
- Redesigned the downlink MAP message for higher spectral efficiency

The PHY team also:

- Heard several contributions
- Addressed open issues in the current document

802.16 approved TG1's request to conduct a Working Group Review of [Revision 4 of its working document](#), in preparation for a Working Group Letter Ballot on the draft beginning at Session #10. The TG1 editorial team will incorporate its comment resolutions and [initiate the 31-day Review](#) by September 29. TG1 also prepared a [Call for Contributions on the few remaining open issues](#) (Convergence Sublayers and PHY Minimum Performance Requirements).

Task Group 2 (TG2): Coexistence

In meetings chaired by new Co-Chair Andy McGregor, TG3 reviewed its Recommended Practice on Coexistence of Broadband Wireless Access Systems. The Group produced a [Summary](#) (including 11 Recommendations) and presented it in a meeting with the TG1 PHY team. The consensus was that a [Final Task Group Review](#) of the document is now in order, in preparation for a Working Group Letter Ballot beginning at Session #10. The review will be based on [Revision 9 of the working document](#). Liaison letters were produced to inform several organizations of the review. An [Interim Meeting](#), with Andy McGregor as host, was scheduled for 25-25 October in Ottawa, Canada to process comments received to that point.

Task Group 3 (TG3): Air Interface for licensed bands, 2-11 GHz

TG3 made the major decision to request a common medium access control (MAC) layer across the Working Group. This action, following a Thursday night session in which TG1 MAC Chair Carl Eklund addressed TG3 concerns in a [detailed presentation](#), allows TG3 to focus on refinements to TG1's advanced MAC rather than on development of a new one.

The decision also frees TG3 to focus intently on physical layer (PHY) development. TG3 issued a [Call for Contributions for initial PHY proposals](#), due by 30 October for consideration at Session #10. Only submissions to Session #10 will be eligible for invitation to submit a more detailed proposal to Session #11. The Call for Contributions includes a newly-developed list of PHY Evaluation Criteria, based partially on 13 contributions received and to be further refined at Session #10. A [second Call for Contributions](#) was issued on traffic and deployment models and well as channel models.

TG3 also reached a milestone by completing and adopting its Functional Requirements Document [802.16.3-00/02](#) after [resolving a final round of 74 comments](#).

WirelessHUMAN™ Study Group (Wireless High-Speed Unlicensed Metropolitan Area Networks)

The (WirelessHUMAN™) Study Group completed an [IEEE Project Authorization Request](#) (PAR) requesting approval to initiate a standardization effort. The PAR was approved by 802.16 and sent to IEEE 802.11 and 802.15 for their comments. It will be submitted (possibly following modifications) to IEEE 802 for approval in November.

The PAR indicates rapid development process and a correspondingly focussed project. Namely, the PAR would derive a standard (aimed at the 5-6 GHz bands but applicable from 2-11 GHz) by developing modifications to the 802.16 MAC and to the 802.11a OFDM PHY (and/or the similar HIPERLAN/2 PHY). The plan is to complete a tentative draft by May 2001.

Working Group Progress

Aside from the activities of its Task Groups, IEEE 802.16 as a whole progressed in many ways at Session #9. Here are some highlights:

802.16 to Use a Single MAC Layer

Based on an original motion of Task Group 3, 802.16 unanimously adopted a motion to establish a common 802.16 medium access control layer (MAC) based on the Task Group 1 MAC, requiring each 802.16 Task Group to define its mandatory and optional sub-sets of the common MAC. Backward compatibility and maintenance of the common MAC will be ensured, and 802.16 will strive for forward compatibility.

Petry Serving as Acting Vice Chair

Long-time 802.16 participant Brian Petry was appointed to serve as Acting Vice Chair pending elections at Session #10. Petry's appointment fills a vacancy left by the resignation of Lou Olsen, who found it difficult to continue in face of international travel obligations. Petry has participated in nine of the ten 802.16 sessions as well as in both sessions of 802.16's precursor Study Group. He was the editor of the TG1 and TG3 Functional Requirements Documents, developed 802.16's editorial process, is co-editor of the 802.16.1 standard, and has made numerous technical contributions. Petry is also the author of a chapter on broadband wireless access for the upcoming *Modern Microwave and RF Handbook*. Those interested in candidacy for 802.16 Vice Chair should [contact the Chair](#) by 20 October.

Working Group Approves Logo

The 802.16 logo (seen at the top of this report) was approved by the Working Group.

New Working Group's Wireless Network Facilitates Rapid On-Site Communications

802.16 introduced a new network for on-site communications. The system is based on a server which supports DHCP, HTTP, FTP, and Windows and Apple File Sharing. The network includes an 802.11b-compatible 11 Mbit/s wireless LAN as well as an Ethernet LAN (ten 100BaseTX hubs and many Cat5E cables). File submission and distribution was much more efficient than at previous meetings. Nearly all materials displayed at the Closing Plenary were read from the server; this gave each participant access to the displayed documents. While individual members continued to support document distribution by flash memory card and CD-ROM, future sessions will rely on the new network and participants are encouraged to consider acquiring an 802.11b card for their portable computer.

Liaison Letters

The Working Group approved a [liaison letter to ETSI BRAN](#); this letter thanked ETSI BRAN for its recent

arrangement offering access to private documents and indicated an intent to reciprocate. The Working Group also approved letters to several other organizations.

Attendance

Attendance at Session #9 was 144; see the [attendance list](#). 126 people attended during enough meeting intervals to receive credit for having "participated" in the session for membership purposes; this was just shy of the record 128 set at Session #8.

RAWCON2000

Session #9 was held in conjunction with the 2000 IEEE Radio and Wireless Conference ([RAWCON2000](#)). 802.16 attendees were invited to attend the RAWCON Keynote Address, the evening receptions and panel sessions, and a lunch. The two events worked well in tandem.

Future Meetings

[Session #10](#) will be held in Tampa, Florida, USA on 6-10 November in conjunction with the IEEE 802 Plenary Meeting. The Session will open at 1 pm Monday and close by 5 pm Thursday. Monday morning is available for Task Group meetings. Friday morning will be used to process documents and prepare materials for Working Group Letter Ballots.

Session #11 was planned for Tel Aviv, Israel on 22-26 January 2001, with Naftali Chayat of BreezeCOM as host.

Documents

The [Session #9 document list](#) indexes the documents processed during the week of the meeting as well as followup documents.

Complete Minutes

- [Working Group Minutes](#)
- [TG1 and TG1 MAC Minutes](#)
- [TG1 PHY Minutes](#)
- [TG2 Minutes](#)
- [TG3 Minutes](#)
- [Joint TG1 and TG3 MAC Meeting Minutes](#)

About IEEE 802.16

The IEEE 802.16 Working Group on Broadband Wireless Access Standards is creating the **WirelessMAN**TM family of standards for wireless metropolitan area networks. The mission of Working Group 802.16 is "to develop standards and recommended practices to support the development and deployment of fixed broadband wireless access systems." 802.16 is a unit of the [802 LAN/MAN Standards Committee](#), the premier transnational forum for wired and wireless networking standardization.

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