Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	WirelessHUMAN May 2000 meeting minutes
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Abstract	The first WirelessHUMAN^{TM} study group meeting was held. A summary of the meeting activity is presented. A number of contributions were made in response to the call for contributions. The group discussed the need for WirelessHUMAN^{TM} standards work and what parts of the other standards work may or may not be applicable to WirelessHUMAN^{TM} activity.

Purpose	To give a summary of the WirelessHUMAN^{TM} May 2000 meeting

WirelessHUMAN^{TM} IEEE 802.16 Session #7 (May 2000) meeting minutes

The first WirelessHUMAN^{TM} session was held on May 2 2000 jointly with the IEEE 801.16.3 group. Both Brian Kiernan and Durga Satapathy chaired the session and talked about the need for the joint session and for the two groups to work together. Durga presented the proposed agenda for next three days for the WirelessHUMAN^{TM} group. There were a number of comments and questions from a number of people related to the agenda. Some people wanted to attend both WirelessHUMAN^{TM} and 802.16.3 sessions. Marianna Goldhammer brought a motion to have more of the WirelessHUMAN^{TM} comments presented in the joint session. The motion was rejected. Demos Kostas commented to the effect that he wanted to attend both WirelessHUMAN^{TM} and IEEE 802.16.3 meetings and having them in parallel was not good. Based on strong interest in attending the joint session of WirelessHUMAN^{TM} and IEEE 802.16.3 groups, the time for the joint session was increased to most of the Tuesday. Durga made motion to accept the modified agenda. It was seconded by Demos Kostas and accepted unanimously.

Sanjay Moghe, Secretary, described some of the items related to the WirelessHUMAN^{TM} study group procedures. He mentioned that we should follow the rules of the other 802.16 groups related to submitting the contributions, i.e. the contributions should be given to the secretary at least two hours in advance of the presentation. He also asked all the people who had interest in the WirelessHUMAN^{TM} group to give their names and other information to him so that it can be added to the WirelessHUMAN^{TM} list.

John Peha from Carnegie Mellon University gave a presentation on the path towards efficient coexistence in unlicensed spectrum. He talked about how interference from neighbors in an unlicensed band can be avoided by a variety of strategies including efficient spectrum utilization, keeping the transmitted power levels low, efficient spectrum etiquettes etc. He discussed how the etiquettes for spectrum sharing in bands like unlicensed PCS band work and how they are not adequate to meet the high capacity BWA systems. John Peha discussed how greed (in using spectrum resources) can be useful to one device but can hurt the performance of other devices. He showed that the current etiquettes were not enough to stop the devices from behaving in a greedy fashion. He talked about need for doing further work in this area.

On 3rd May 2000, Durga called the meeting (not joint with 802.16.3) of the WirelessHUMAN^{TM} group to order. He presented the agenda, the contributions and other items we planned to discuss during the day. Durga presented the need to have sub teams to study the regulatory requirements, system requirements and a team to interface with the other groups.

Individual contributions were presented thereafter. Mika Kasslin presented the first contribution. He presented the requirements for WirelessHUMAN^{TM} system and suggested as to which parts of MAC and PHY layers from other groups i.e. 802.11, 802.16.3 and others were or were not applicable to WirelessHUMAN requirements. He commented that both 802.11 and HIPERLAN systems were not designed for large area metropolitan networks. He commented that 802.11a PHY may (with some modification) have some applicability to WirelessHUMAN^{TM} requirements. There were many comments from the group on the presentation related to WirelessHUMAN^{TM} requirements and what is the applicability of the work being done by other standards groups.

Vijaya Gallagher gave the next contributed presentation on the "Requirements for Broadband Wireless Access System in the UNII Band." She talked about the unique requirements for WirelessHUMAN^{TM} systems in the unlicensed bands, i.e. robustness against interference and coordination with other unlicensed band users. She talked in detail about the applicability of the 802.11 MAC which is designed for both ad-hoc and infrastructure LANs and mobile users and roamers. Many of these requirements are not needed for WirelessHUMAN^{TM} systems. Also the propagation delays are much larger for BWA systems than for LANs. Thus 802.11 MAC will require modification to be applicable to BWA systems. She commented that 802.11 PHY which is designed for mobile requirements could be simplified for BWA system by examining other non-OFDM PHY. Similarly she discussed similarities and differences with other standards activities like 802.15 and 802.16.3.

Wednesday afternoon Durga discussed the CEPT proposal and how it effects our unlicensed band operation. There was some discussion of how it could affect the interests of the WirelessHUMAN[TM] group adversely by limiting the bands available for WirelessHUMAN[TM] systems. The study group drafted a response to the CEPT proposal, in general opposing taking some of the spectrum away from being useful for WirelessHUMAN[TM] systems. Next day at the plenary session of the 802.16-working group, there was a broader discussion of whether the IEEE 802 body should take a stand on this matter. The 802.16 leadership felt that for a variety of reasons including , to avoid controversy with the other 802 groups it was better to not submit a response to CEPT proposal at the last minute.

Overall, the first meeting of the WirelessHUMAN[TM] study group was successful. The list of people participating in and taking interest in the WirelessHUMAN[TM] work has grown to more than thirty. Five contributions were presented and during WirelessHUMAN[TM] sessions, with active participation from both industry and academia. The next meeting of the WirelessHUMAN[TM] group is scheduled to take place at the IEEE 802.16 Session #8, July 10-14, 2000.