**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | Peer Aware Communications (PAC) Task Group minutes for May 2012  |
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| Re: |  |
| Abstract | PAC Task Group. |
| Purpose | To develop interest in this technology with a view to determine its possible standardization within the 802.15 WG. |
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These are the minutes of IEEE 802.15.8 Task Group PAC meeting held at the Hyatt Regency Atlanta, May 15 – 17, 2012.

 **Tuesday May 15th, 2012**

1. The Chair called the meeting to order at 8:00am.
2. Chairman: Myung Lee, Secretary: Chanho Yoon
3. IEEE Patent Policy slides were shown.
4. The chair asked if there were any questions. None heard.
5. The agenda for the meeting is : 15-12-0225-01-0008-tg8-pac-agenda-atlanta-may2012.xlsx
6. Attendees were asked to sign in the IMAT system for attendance.
7. There were no objections on approving the mintues on the last SG PAC meeting in Big Island.
8. The TG8 chair reviewed the final PAR of the TG8.
9. One of the group participants asked for an explanation of “number of devices in the discovery” which was mentioned in the scope section (refer to the document 15-12-0157-00-0pac-draft-pac-par.rtf). The chair acknowledged the notion that it can be interpretated in two different ways. He gave a clear statement that analyzing the number of devices is not the interest of the scope but the capability of discoverying large number of PAC devices.
10. The chair comfirmed to fix the order of 10 presentations which were going to be scheduled for this week.
11. The first one was presented (15-12-0246-00-0008-application-and-expected-technical-attributes-in-pac.pptx) by Jiyoung Chun from LGE.
12. One of the issues she brought up was choosing or combining the unlicensed/lincensed operating bands for PAC.
13. Igor Dotlic from NICT presented utilization of IR-UWB scheme (15-12-0251-00-0008-low-to-medium-data-rate-ir-uwb-phy-in-ieee-802-15-8.pdf) for potential PHY frame as well as to solve operating band problems to meet some of the PAC requirements.
14. The third presentation (15-12-0230-01-0008-application-reference-for-pac.doc) was given by Eldad Zeira from Interdigital.
15. He presented a material that have been discussed recently in the 3GPP standard activity intended for developing guidelines for switching from infrastructure LTE mode to direct communications mode utilizing other communication protocols such as the WLAN technology. He emphasized that discovery of all the available devices in the proximity should be filtered (pre-conditions => service flows => post-conditions => requirements) for efficient peer-to-peer communication user experience. He suggested that the framework done by 3GPP for D2D communication serves as a good reference for setting up device discovery mechanism. He said infrastructure network provides solutions for some PAC related issues such as security problems.
16. The meeting recessed at 10:00am.
17. The group reconvened at 10:30am.
18. A time slot for Q & A was given for Eldad’s presentation.
19. Fourth presentation (15-12-0227-00-0008-response-to-the-call-for-applications-point-and-link-communication.pptx) was given by Byung-Jae Kwak from ETRI.
20. He proposed look-and-link scheme as an attractive feature for PAC. He also emphasized on filtering unwanted device discovery due to the general overhead cost proportional to the number of PAC devices. He proposed “look-and-link communication” as a filtering mechanism in a LOS situation. Device filtering can be service, spatial or device type for better user experience.
21. Fifth presentation (15-12-0254-00-0008-nict-fs-response-to-call-for-applications-tg-15-8-peer-aware-communications.pdf) was given by Huan-Bang Li from NICT. He presented four usage models to be considered for PAC.
22. Marco Hernandez from NICT presented the sixth presentation (15-12-0259-00-0008-design-considerations-for-pac.ppt).
23. The meeting recessed at 12:30pm.

**Wednesday May 16th, 2012**

1. The group reconvened at 1:30pm.
2. The group members continued on presenting materials. The seventh presentation (15-12-0255-02-0008-response-to-the-call-for-applications.pptx) was given by Sunggeun Jin from ETRI.
3. There was a discussion on how to define the meaning of proximity for PAC especially when targeted coverage and multi-hop technique are brought up. According to Eldad’s comments proximity depends on applications. In point of communication view, what kind of data rate we can get defines the proximity.
4. Next, Eldad Zeira from Interdigital presented the eighth uploaded materal for this meeting (15-12-0272-00-0008-use-cases-and-applications-for-pac.pptx). He proposed an application matrix template sorted by vertical use cases vs PAC features. He also proposed context-aware peer-to-peer communication as a design factor/parameter of PHY/MAC structure since various applications require different latency, data rate, network topology.
5. The nineth presentation was given by Seung-Hoon Park from Samsung. There was a comment on long latency requirement on gaming services. Many group participants questioned on how to implement TDMA as a multiple access scheme for unlicensed bands. Seung-Hoon replied with some existing 802 standards employing joint CSMA/TDMA techniques. He also mentioned that TDMA can also be scheduled in a distributed manner. There was another comment on challenging issues on synchronization requirements. There was a suggestion on focusing on proximity based services in the service requirements category according to the presentation material.
6. The meeting recessed at 3:30pm.
7. The group reconvened at 4:00pm.
8. Nomination of TG8 officers except the secretary position was unanimously affirmed. Chair: Myung J. Lee, Vice Chair: Huang-Bang Lee and Suwook Kim, Technical Editors: Shannon Park and Sunggeun Jin, and Secretary: TBD.
9. The group discussed on preliminary methods to select/merge technical proposals (i.e. down selection or merging method).
10. The meeting recessed at 4:45pm.

**Thursday May 17th, 2012**

1. The group reconvened at 8:00am.
2. Attendees were asked to sign in the IMAT system for attendance
3. The 10-th presentation (15-12-0287-00-0008-re-application-matrix-template-proposal-in-15-12-0272-00-0008-use-cases-and-applications-for-pac.ppt) was given by Cheol Ryu from ETRI. He suggested categorizing services/apps by information source, information sink and benefits of locality. By doing so, he also proposed to limit PAC services useful for human dependant only applications.
4. JinSam from LGE informed the group members to set the standardization process of 802.16m as a reference. He suggested TG8 group members to follow the process described as building system requirements document (SRD), evaluation methodology document (SMD), and system description document (SDD) first before actually developing a new PHY/MAC.
5. Marco Hernandez presented an example of technical requirement document developed by 802.15 TG6.
6. The group reconvened at 10:30am.
7. Last presentation (15-12-0264-01-0008-tg-procedure-for-pac.pptx) was given by Suhwook Kim from LGE. He showed 802.15 TG4m’s example for technical guidance (TGD) document before call for proposal. As for a specification framework document (SFD), he showed an example from 802.11 TGah. He proposed a straw poll on adopting SFD after the Call for proposal. But, the group agreed to skip/delay the straw poll.
8. The meeting recessed at 12:00pm.
9. The group reconvened at 1:30pm.
10. Suhwook Kim presented a revised version of TG8 procedure.
11. There was a motion to request that TG8 adopt the standard specification procedure presented in DCN264r3. Results: Yes: 8, No: 0, Abs: 2. Motion passed.
12. The group also agreed upon the timeline denoted in DCN264r3. The group agreed upon changing the specification framework document (SFD) to PAC framework document (PFD) which is the preliminary framework of PAC PHY/MAC specification. Seung-Hoon Park volunteered as the editor for TGD, and Sunggeun Jin volunteered as the editor for PFD.
13. The meeting adjourned until next session in July 2012, San Diego, CA.

The next meeting will be held during July 16-20, 2012, at the Manchester Grand Hyatt, San Diego, CA.