IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WLAN Sensing SG – June and July 2020 Teleconference Meeting Minutes | | | | |
| Date: 2020-07-10 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Claudio da Silva | Intel |  |  | claudio.da.silva@intel.com |
| Tony Xiao Han | Huawei Technologies Co., Ltd |  |  | tony.hanxiao@huawei.com |

Abstract

This document contains the meeting minutes of the IEEE 802.11 Study Group on WLAN Sensing (SENS SG) teleconferences held in June and July 2020.

**Teleconference on June 9th, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:00am ET by the Chair (Tony Xiao Han, Huawei).
   1. Attendance log can be found in Appendix 1.
2. The agenda for the meeting can be found in IEEE 802.11-20/0870r1.
3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.
4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.
5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.
6. The proposed agenda (slide 14) was reviewed and approved without objection.
7. Chair reviewed the call for contributions (slide 15), SENS SG timeline (slides 16 and 17), and future teleconference times (slide 18) slides.
8. Presentation of “WLAN Sensing Definitions,” doc. IEEE 11-20/0807r1, by Cheng Chen (Intel).
   1. Presenter went over changes made to contribution 20/0807r0, which was presented to SENS SG in its 05/26 teleconference.
   2. Technical discussion followed for clarification of different aspects and definitions of the contribution. Suggestions were provided to the SP text.
   3. Presenter will revise the SP text and run it in a future teleconference/meeting.
9. Presentation of “Proposal for the Definition of WLAN Sensing Functional Requirements,” doc. IEEE 11-20/0781r1, by Claudio da Silva (Intel).
   1. Presenter highlighted main elements of the proposal, which was originally presented to and discussed by the group in its 05/26 teleconference.
   2. There were no questions or comments.
   3. The following straw poll was conducted: “Do you support the procedure outlined in slide 3 of this presentation (20/0781r1) for the definition of WLAN sensing functional requirements?” Results: Yes: 29, No: 0, Abstain: 6.
10. Presentation of “A Channel Measurement Procedure for WLAN Sensing,” doc. IEEE 11-20/0842r0, by Claudio da Silva (Intel).
    1. Technical discussion followed the presentation with questions/comments/suggestions on topics such as NDP announcement frame (need/no need to define it), value of defining scheduled-based procedures, and possibility of performing WLAN sensing with multiple stations in different channels, among others.
11. Meeting adjourned at 11:50am ET.

**Teleconference on June 23d, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:00am ET by the Chair (Tony Xiao Han, Huawei).
   1. Attendance log can be found in Appendix 2.

2. The agenda for the meeting can be found in IEEE 802.11-20/0870r2.

3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.

4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.

5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.

6. The proposed agenda (slide 19) was reviewed and approved without objection.

1. Chair reviewed the call for contributions (slide 20), SENS SG timeline (slides 21 and 22), and future teleconference times (slide 23) slides.
   1. Discussion followed on different aspects of the July electronic plenary and on the proposed time for SENS SG sessions.
   2. The proposed extension of the duration of the July 14 and July 15 SENS SG calls from 1:30 to 2 hours was not objected by the group. Chair will announce the change on the 802.11 reflector.

8. Presentation of “WLAN Sensing Definitions” by Cheng Chen (Intel), Doc. IEEE 11-20/0807r2.

* 1. Presenter discussed changes made to the three SPs. Modifications were made and uploaded by the author as doc. IEEE 11-20/0807r3.
  2. Technical discussion of different aspects of the contribultion followed.
  3. The following straw poll was conducted: “Do you agree with the following definitions? A sensing procedure allows a STA to perform WLAN sensing and obtain measurement results. A sensing session is an instance of a sensing procedure with the associated scheduling if applicable, and operational parameters of that instance.” Results: Yes: 31, No: 1, Abstain: 8.
  4. The following straw poll was conducted: “Do you agree with the definition shown in SP2 in 0807r3?” Results: Yes: 23, No: 3, Abstain: 10.

8. Presentation of “Usage model terminology for WLAN sensing” by Yingxiang Sun (Huawei), Doc. IEEE 11-20/0905r0.

1. Presenter went over a proposal that includes metrics to WLAN sensing applications and a detailed discussion of one usage model. Technical discussion followed. Questions on the SP text were also made. SP will be run on a future call/meeting.

9. Meeting adjourned at 11:30am ET.

**Teleconference on July 7th, 2020**

1. The IEEE 802.11 SENS SG teleconference was called to order at 10:00am ET by the Chair (Tony Xiao Han, Huawei).
   1. Attendance log can be found in Appendix 3.
2. The agenda for the meeting can be found in IEEE 802.11-20/0996r1.
3. Guidelines on “Meeting Protocol, Attendance, Voting & Document Status” (slide 4) were reviewed. No items noted.
4. Patent policy guidelines (slides 6-9) were reviewed. No items noted.
5. Guidelines on the IEEE Codes of Ethics & Conduct, "individual process," and "fair & equitable consideration" (slides 10-12) were reviewed. Required notices (slide 13) were also reviewed. No items noted.
6. The proposed agenda (slide 14) was reviewed and approved without objection.
7. Chair reviewed the call for contributions (slide 15), SENS SG timeline (slides 16 and 17), and future teleconference times (slide 18) slides.
8. Presentation by Claudio da Silva (Intel), Discussion of comments submitted by 802.3 on the SENS SG PAR, Doc. IEEE 11-20/0989r0.
   1. Presenter informed the group that a new revision of the PAR, 19/2103r10, that incorporates the changes proposed in 20/0626r1, was uploaded to the server.
   2. Presenter also informed the group that a new revision of the CSD, 20/0042r5, that incorporates the changes proposed in 20/0726r1, was uploaded to the server.
   3. Presenter reviewed the changes proposed in 20/0989r0 that address comments submitted by 802.3. Suggestions were ofered by different group members and incorporated during the call in a new revision of the document.
      1. A revised version of the document, 20/0989r1, was uploaded to the server after the call.
   4. The following straw poll was conducted: “Do you support the modifications proposed in 20/0989r1 to the SENS SG PAR?” Results: Yes: 34, No: 0, Abstain: 7.
9. Presentation of “Usage model terminology for WLAN sensing” by Yingxiang Sun (Huawei), Doc. IEEE 11-20/0905r1.
10. Presenter went over changes made to 20/0905r0, which was presented to SENS SG on June 23rd, and then answered technical questions.
11. Discussion will continue in a future meeting.
12. Meeting adjourned at 11:30am ET.

**Appendix 1: Attendance log for the June 9th, 2020 teleconference**

The list below was recorded from IMAT and may be incomplete.

|  |  |
| --- | --- |
| Allegue Martinez, Michel | Aerial Technologies Inc |
| Au, Kwok Shum | Huawei Technologies Co., Ltd |
| Au, Oscar | Origin Wireless |
| Beg, Chris | Cognitive Systems Corp. |
| Bredewoud, Albert | Broadcom Corporation |
| Cepni, Gurkan | Apple, Inc. |
| Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| Choi, Jinsoo | LG ELECTRONICS |
| Costa, D.Nelson | Peraso Technologies Incorporated |
| Dash, Debashis | Apple, Inc. |
| da Silva, Claudio | Intel Corporation |
| Dong, Xiandong | Xiaomi Inc. |
| Du, Rui | Huawei Technologies Co., Ltd |
| Eitan, Alecsander | Qualcomm Incorporated |
| Handte, Thomas | Sony Corporation |
| Haskou, Abdullah | InterDigital, Inc. |
| Jang, Insun | LG ELECTRONICS |
| Kasher, Assaf | Qualcomm Incorporated |
| Kim, Jeongki | LG ELECTRONICS |
| Kim, Sang Gook | LG ELECTRONICS |
| Lim, Dong Guk | LG ELECTRONICS |
| LIU, CHENCHEN | Huawei Technologies Co. Ltd |
| Lopez, Miguel | Ericsson AB |
| Merlin, Simone | Qualcomm Incorporated |
| Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| Rantala, Enrico-Henrik | Nokia |
| Solaija, Muhammad Sohaib | Istanbul Medipol University; Vestel |
| Trainin, Solomon | Qualcomm Incorporated |
| Turkmen, Halise | Vestel |
| Wang, Chao Chun | MediaTek Inc. |
| Wendt, Matthias | Signify |
| Xin, Yan | Huawei Technologies Co. Ltd |
| YANG, RUI | InterDigital, Inc. |
| Zhang, Meihong | Huawei Technologies Co., Ltd |

The following members recorded their attendance by sending an email to the Secretary:

1. Perry Wang (MERL)

In addition, the presence of the following members were recorded using WebEx:

1. Cheng Chen (Intel)
2. Insun Jang (LGE)
3. Ishaque Kadampot
4. Katla Satyanarayana

**Appendix 2: Attendance log for the June 23d, 2020 teleconference**

The list below was recorded from IMAT and may be incomplete.

|  |  |
| --- | --- |
| Name | Affiliation |
| Aboulmagd, Osama | Huawei Technologies Co. Ltd |
| Au, Kwok Shum | Huawei Technologies Co.,  Ltd |
| Au, Oscar | Origin Wireless |
| Beg, Chris | Cognitive Systems Corp. |
| Bredewoud, Albert | Broadcom Corporation |
| Chen, Canfeng | Xiaomi Inc. |
| Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| Choi, Jinsoo | LG ELECTRONICS |
| Costa, D.Nelson | Peraso Technologies Incorporated |
| da Silva, Claudio | Intel Corporation |
| Dong, Xiandong | Xiaomi Inc. |
| Du, Rui | Huawei Technologies Co., Ltd |
| Eitan, Alecsander | Qualcomm Incorporated |
| Fang, Yonggang | ZTE TX Inc |
| Grigat, Michael | Deutsche Telekom AG |
| HAN, Xiao | Huawei Technologies Co. Ltd |
| Handte, Thomas | Sony Corporation |
| Kasher, Assaf | Qualcomm Incorporated |
| Kim, Sang Gook | LG ELECTRONICS |
| Kremo, Haris | RWTH Aachen University |
| Kwon, Young Hoon | NXP Semiconductors |
| Lim, Dong Guk | LG ELECTRONICS |
| LIU, CHENCHEN | Huawei Technologies Co. Ltd |
| Lopez, Miguel | Ericsson AB |
| Merlin, Simone | Qualcomm Incorporated |
| Ozbakis, Basak | VESTEL Electronics Corp. |
| Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| Raissinia, Alireza | Qualcomm Incorporated |
| Rantala, Enrico-Henrik | Nokia |
| Sand, Stephan | German Aerospace Center (DLR) |
| Solaija, Muhammad Sohaib | Istanbul Medipol University; Vestel |
| Stanley, Dorothy | Hewlett Packard Enterprise |
| Sun, Bo | ZTE Corporation |
| Sun, Li-Hsiang | InterDigital, Inc. |
| Turkmen, Halise | Vestel |
| Varshney, Prabodh | Nokia |
| Xin, Yan | Huawei Technologies Co. Ltd |
| Zhang, Meihong | Huawei Technologies Co., Ltd |

In addition, the presence of the following members was recorded using WebEx:

1. Basak Ak Ozbakis
2. Ishaque Kadampot
3. Pu Perry Wang (MERL)
4. Satyanarayana Katla
5. Jeongki Kim (LGE)
6. Mark Rison (Samsung)
7. John Son (WILUS)
8. Jianwei Bei (NXP)
9. Insun Jang (LGE)
10. Cheng Chen (Intel)
11. Yangxiang Sun (Huawei)

**Appendix 3: Attendance log for the July 7th, 2020 teleconference**

The list below was recorded from IMAT and may be incomplete.

|  |  |
| --- | --- |
| Aboulmagd, Osama | Huawei Technologies Co. Ltd |
| Allegue Martinez, Michel | Aerial Technologies Inc |
| Au, Kwok Shum | Huawei Technologies Co.,  Ltd |
| Au, Oscar | Origin Wireless |
| Beg, Chris | Cognitive Systems Corp. |
| Bredewoud, Albert | Broadcom Corporation |
| Cepni, Gurkan | Apple, Inc. |
| Chitrakar, Rojan | Panasonic Asia Pacific Pte Ltd. |
| Choi, Jinsoo | LG ELECTRONICS |
| Costa, D.Nelson | Peraso Technologies Incorporated |
| da Silva, Claudio | Intel Corporation |
| Dong, Xiandong | Xiaomi Inc. |
| Du, Rui | Huawei Technologies Co., Ltd |
| Eitan, Alecsander | Qualcomm Incorporated |
| Fang, Yonggang | ZTE TX Inc |
| Grigat, Michael | Deutsche Telekom AG |
| HAN, Xiao | Huawei Technologies Co. Ltd |
| Handte, Thomas | Sony Corporation |
| Haskou, Abdullah | InterDigital, Inc. |
| Kadampot, Ishaque Ashar | Qualcomm Incorporated |
| Kasher, Assaf | Qualcomm Incorporated |
| Kim, Sang Gook | LG ELECTRONICS |
| Kremo, Haris | RWTH Aachen University |
| Kwon, Young Hoon | NXP Semiconductors |
| McGuire, Colin | The MathWorks, Inc. |
| Merlin, Simone | Qualcomm Incorporated |
| Pare, Thomas | MediaTek Inc. |
| Patwardhan, Gaurav | Hewlett Packard Enterprise |
| Rantala, Enrico-Henrik | Nokia |
| Rosdahl, Jon | Qualcomm Technologies, Inc. |
| Solaija, Muhammad Sohaib | Istanbul Medipol University; Vestel |
| Stanley, Dorothy | Hewlett Packard Enterprise |
| Tan, Danny | Huawei Technologies Co.,  Ltd |
| Trainin, Solomon | Qualcomm Incorporated |
| Turkmen, Halise | Vestel |
| Varshney, Prabodh | Nokia |
| Verenzuela, Daniel | Sony Corporation |
| Wang, Chao Chun | MediaTek Inc. |
| Wang, Pu | Mitsubishi Electric Research Labs (MERL) |
| Wendt, Matthias | Signify |
| Xin, Yan | Huawei Technologies Co. Ltd |
| YANG, RUI | InterDigital, Inc. |
| Yee, James | MediaTek Inc. |
| ZEGRAR, Salah Eddine | [NV] {Vestel} |
| Zhang, Meihong | Huawei Technologies Co., Ltd |

In addition, the presence of the following members was recorded using WebEx:

1. Yingxiang Sun (Huawei)
2. Chenchen Liou (Huawei)
3. Cheng Chen (Intel)
4. Dongguk Lim (LG)
5. John Son (WILUS)
6. Jeongki Kim (LGE)
7. Ahmet Cepni
8. Jonathan Goldberg (IEEE)
9. Onur (IDCC)
10. Paul Nikolich