IEEE P802.11  
Wireless LANs

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| TGax March 2018 ad hoc meeting minutes (MAC-MU-SR) | | | | |
| Date: 2018-03-19 | | | | |
| Author(s): | | | | |
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Wednesday, February 28th, 2018, 10:00 – 18:00 TGax ad hoc – Day 1

Abstract

This document contains minutes of TGax March 2018 ad hoc meeting (MAC-MU-SR).

Rev. 0: Initial version.

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 10:00 (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the TGax secretary, Yasuhiko Inoue (NTT).
   2. Agenda: 11-18-0287-01 (rev. 2 is the working document)
2. **IEEE 802 and 802.11 IPR Policy and Procedure**
   1. Chair read the 5 slides of IEEE 802 Policies and Procedures.
      1. Participants have a duty to inform the IEEE
      2. Ways to inform IEEE
         1. Chair asked if there is any potentially essential patent that people are aware of.
            1. No potentially essential patent reported.
      3. Other guidelines for IEEE WG meetings
      4. Patent-related information
      5. Participation in IEEE 802 Meetings
3. **General flow of the ad hoc meeting**
   1. Proposed
      1. Wednesday (10:00 – 18:00)
         1. Comment Resolution
         2. Recess
      2. Thursday (9:00 – 18:00)
         1. Comment Resolution
         2. Recess
      3. Friday (9:00 – 17:00)
         1. Comment Resolution
         2. Adjourn
   2. Discussion
      1. Chair asked if it is okay to finish the ad hoc meeting on Friday at 17:00 since people may leave earlier to catch the flight.
         1. An attendee mentioned that there is no reason to finish the meeting earlier since it was announced a month in advance.
   3. Approval of the agenda
      1. Chair asked if there is any comment. 🡪 No commnet.
4. **Agenda for the 1st day of the TGax ad hoc meeting**
   1. Proposed agenda
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Call for submissions
      5. Set agenda
      6. Presentations and Comment Resolution
      7. Recess
   2. Schedule of the day
      1. 10:00 Call the meeting to order
      2. 10:00 – 10:05 Administrative Items (IEEE 802 and 802.11 IPR Policy and Procedure, etc.)
      3. 10:05 – 10:20 Call for submission
      4. 10:20 – 12:00 Presentation
      5. 12:00 – 13:00 Break
      6. 13:00 – 15:00 Comment Resolution
      7. 15:00 – 15:30 Break
      8. 15:30 – 18:00 Comment Resolution
      9. 18:00 Recess
   3. Approval of the agenda
      1. Chair asked if there is any item to add to the agenda. 🡪 No item to add to the agenda.
      2. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
   4. The agenda was approved.
5. **Call for submissions**
   1. Chair included an excel file to the agenda file.
   2. The plan is to hear presentation
6. **Comment Resolutions**
   1. **Po-Kai Huang (Intel) presented “11ax D2.2 MAC Comment Resolution for NAV Part III,” based on the submission 11-18-0353-00.**
      1. Summary
         1. Resolutions for the following CIDs related to NAV are proposed.
            1. Relevant CIDs: 11073, 11475, 11489, 11793, 11797, 12088, 12177, 12572, 13007, 14102, 14103, 14104, 14236, 14262, 13300, 13059, 13058, 11075, 14328, 11503, 11516, and 13035 (22 CIDs).
      2. Discussion
         1. People discussed how to consider the basic NAV and the inter-BSS NAV.
         2. Based on the feedback from the people, proposed text in doc.11-18-0353-00 was updated (🡪11-18-0353-01).
         3. Several CIDs (CID #14262, 14328, 11503, 11516 and 13035) are deferred for more discussion.
      3. **Straw Poll**
         1. **Do you agree to resolutions to CIDs, 11073, 11475, 11489, 11793, 11797, 12088, 12177, 12572, 13007, 14102, 14103, 14104, 14236, 14262, 13300, 13059, 13058, 11075, 14328, 11503, 11516, 13035 in doc 11-18/0353r1?**
            1. **Result: No objection to resolutions to CIDs in black.**

**Red CIDs are deferred**

**CID 14262 is in another document**

* + 1. Next Step
       1. Po-Kai to have offline discussion on the CIDs in red.
  1. **Alfred Asterjadhi (Qualcomm) presented “Comment Resolutons for CID 13744,” based on the submission 11-18-0343-00.**
     1. Summary
        1. Resolution for the CID 13744 is revisited.
        2. The resolution for CID 13744 approved during the January 2018 session has some minor editorial inconsistencies and misplaced the exception in one of the items while missing its addition in one of the other items.
     2. Discussion
        1. A member asked for clarification on the aggregation of Action frames.
     3. **Straw Poll: Do you agree to resolutions to CID13744 in doc 11-18/0343r0?**
        1. **Result: No objection.**
        2. **Remark: This is a new resolution.**
     4. Next Step
        1. The document 11-18-0343-00 is ready for motion next week.
  2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 9.3.1.20 Part 2,” based on the submission 11-18-0378-00.**
     1. Summary
        1. Resolutions to the following comments on the spec of clause 9.3.1.20 (**VHT/HE NDP Announcement frame format)** and modifications to the related text are proposed.
           1. Relevant CIDs: 11950, 11951. 11952, 11953, and 12767 (5 CIDs).
     2. Discussion
        1. A member commented the BW signalling TA is not used in MU-RTS.
     3. **Straw Poll**
        1. **Do you agree to resolutions to CIDs; 11950, 11951. 11952, 11953, and 12767 in doc 11-18/0378r1?**
           1. **Result: Resolutions are ok (no objection).**
           2. **Wait for PHY input on the bug fix (not related to any CID)**
     4. Next Step
        1. Alfred to discuss the BW Signaling feature with PHY experts.

1. **Recess for lunch @ 12:00**

**<<Lunch Break>>**

1. **Meeting reconvened @ 13:00.**
2. **Continue Comment Resolutions**
   1. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.6.3,” based on the submission 11-18-0312-00.**
      1. Summary
         1. Resolutions for the comments on subclause 27.6.3 (**Rules for HE sounding protocol sequences**) and medications to the related texts are proposed.
            1. Relevant CIDs: 11432, 11433, 11766, 11767, 11768, 12513, 12515, 12516, 12697, 12698, 12699, 12779, 13218, 13219, 13220, 13222, 13223, 13224, 13225, 13226, 13227, 13228, 13287, 13288, 13289, 13290, 13291, 13550, 13553, 13556, 13712, 13776, 14274 (33 CIDs).
      2. Discussion
         1. CID #11766: deferred by a request from a member..
         2. CID #11768: a member commented that the commenter has a wrong idea (should be rejected).
         3. CID #12513: offline discussions requested..
         4. CID #12516: people discussed partial bandwidth feedback mechanism.
         5. Discussion continued.
3. **Recess @ 15:15 until 15:45.**

**<<Afternoon Break>>**

1. **Meeting reconvened @ 15:40.**
2. **Comment Resolutions**
   1. **Alfred Asterjadhi (Qualcomm) continued presentation of 11-18-0312 “Comment resolutions for 27.6.3.”**
      1. Discussion
         1. CID 13222: The commenter is concerned about the proposed changes to the spec text which was adopted in January 2018 meeting. Need more discussions on SU type feedback and CQI only feed back.
      2. Next Step
         1. Three CIDs (#13220, 12699, and 11766) are transferred to Zhou Lan.
         2. The submission will be rescheduled to accept the proposed resolutions.
   2. **Chao-Chun Wang (MediaTek) presented “11ax D1.0 MAC Comment Resolution for 9.4.2.24,” based on the submission 11-18-00443.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 and the proposed change is for TGax Draft 2.2.
            1. CIDs: 12568, 13848, 11922, 12208, 12566, 12567, 11253, 11254, 11025, 11026, 13183, 13184, 11515 (13 CIDs)
      2. Discussion
         1. CID 12568: Resolution was changed from Revised to Reject.
      3. Next Step
         1. Presentation was not completed for some reason. To be reconsidered in Thursday AM session.
   3. **Jason Yuchen Guo (Huawei Technologies) presented “Comment Resolution on cid 13082, 13083 and 14141,” based on the submission 11-18-0431.**
      1. Summary
         1. Resolutions of comments received from TGax comment collection (TGax Draft 2.0).
            1. CIDs: 13082, 13083, 14141.
      2. Discussion
         1. People discussed the setting of in the AID12 subfield and The Random Access RU Number for UORA.
      3. Next Step:
         1. CIDs 13082 and 13083 need more discussion.
   4. **Abhishek Patil (Qualcomm) presented “Resolution for CID 13136,” based on the submission 11-18-0363-00.**
      1. Summary
         1. Resolutions for CID 13136 received for TGax LB230.
            1. CID 13136 on 9.2.4.6.4.2 (UMRS Control).
         2. Resolution is Revised - Agree with the comment. Abhi suggested rename of the field from UMRS to TBRS.
      2. Discussion
         1. The TGax editor is not happy with this proposal.
      3. Next Step
         1. Need to have more discussion.
3. **AOB**
   1. None.
4. **Recess**
   1. TGax ad hoc meeting is in recess at 17:50 until 9:00 AM tomorrow (Local Time).
5. **List of Attendees of day 1**

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|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Alfred Asterjadhi | Qualcomm |
| 3 | Edward Kwok Shum Au | Huawei Technologies |
| 4 | Laurent Cariou | Intel |
| 5 | Liwen Chu | Marvell Semiconductors |
| 6 | Matthew Fischer | Broadcom Ltd. |
| 7 | Ming Gan | Huawei Technologies |
| 8 | Jason Yuchen Guo | Huawei Technologies |
| 9 | Po-Kai Huang | Intel |
| 10 | Chunyu Hu | Broadcom Ltd. |
| 11 | Yasuhiko Inoue | NTT |
| 12 | Jeongki Kim | LG Electronics |
| 13 | Jarkko Knect | Apple |
| 14 | Zhou Lan | Broadcom Ltd. |
| 15 | Guoqing Li | Apple |
| 16 | Yunbo Li | Huawei Technologies |
| 17 | Kaying Lv | ZTE |
| 18 | Pooya Monajemi | Cisco Systems |
| 19 | Patrice Nezou | Canon |
| 20 | Minyoung Park | Samsung |
| 21 | Abhishek Patil | Qualcomm |
| 22 | Al Petrick | InterDigital Communications |
| 23 | Kiseon Ryu | LG Electronics |
| 24 | Yongho Seok | MediaTek |
| 25 | Robert Stacy | Intel |
| 26 | Bo Sun | ZTE |
| 27 | Chao-Chun Wang | MediaTek |
| 28 | Huizhao Wang | Quantenna Communications |
| 29 | Xiaofei Wang | InterDigital Communications |
| 30 | David Xun Yang | Huawei Technologies |
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# Thursday, March 1st, 2018, 9:00 – 18:00 TGax ad hoc – Day 2

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 09:00 (Local Time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the secretary Yasuhiko Inoue (NTT).
2. **Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and IEEE 802.11 Policy and Procedure.
   2. Chair asked people to state name and affiliation when addressing for the first time in the session.
   3. Chair also asked people to signed up the attendace sheet. It is just for the minutes and is not affecting the voting right.
3. **Agenda Setting**
   1. Proposed Agenda
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Call for submissions
      5. Set agenda
      6. Presentations and Comment Resolution
      7. Recess
   2. Schedule for the day
      1. 9:00 Call the meeting to order
      2. 9:00 – 9:05 Administrative Itemss (IEEE 802 and 802.11 IPR Policy and Procedure, Agenda Setting, etc.)
      3. 9:05 – 10:30 Comment Resolution
      4. 10:30 – 10:45 Break
      5. 10:45 – 12:00 Comment Resolution
      6. 12:00 – 13:00 Lunch
      7. 13:00 – 15:00 Comment Resolution
      8. 15:00 – 15:30 Break
      9. 15:30 – 18:00 Comment Resolution
      10. 18:00 Recess
   3. Approval of the agenda
      1. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      2. The agenda was approved.
4. **Progress Review**
   1. 11-18-0353, “11ax D2.2 MAC Comment Resolution for NAV Part III,” by Po-Kai Huang (Intel)
      1. Some CIDs are deferred and one CID is covered in a separate document.
   2. 11-18-0343, “Comment Resolutons for CID 13744,” by Alfred Asterjadhi (Qualcomm)
      1. No objection. The new resolution for this CID is adopted.
   3. 11-18-0378, “Comment resolutions for 9.3.1.20 Part 2,” by Alfred Asterjadhi (Qualcomm)
      1. The proposed resolutions are okay. Wait for the input from PHY expoets.
   4. 11-18-0312, “Comment resolutions for 27.6.3,” by Alfred Asterjadhi (Qualcomm)
      1. Need more discussion to accept the resolutions.
   5. 11-18-0443, “11ax D1.0 MAC Comment Resolution for 9.4.2.24,” by Chao-Chun Wang (MediaTek)
      1. Presentation not completed. To be reconsidered during Thursday.
   6. 11-18-0431, “Comment Resolution on cid 13082, 13083 and 14141,” by Jason Yuchen Guo (Huawei)
      1. The resolutions for CID #14141 is okay. Need more discussion for other CIDs.
   7. 11-18-0363, “Resolution for CID 13136,” by Abhishek Patil (Qualcomm)
      1. Need more discussion.
5. **Comment Resolutions**
   1. **Abhishek Patil (Qualcomm) presented “BSS Color Part 1,” based on the submission 11-18-0365-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 with the following CIDs on BSS Color are proposed.
            1. CIDs: 12426, 11547, 12427, 13010, 11867, 12552, 12548 (7 CIDs).
      2. Discussion
         1. A member mentioned that the initial value of the BSS Color should be stated. 🡪 Abhi to work with some people.
         2. People discussed BSS Color change and BSS Color setting for Co-located cases.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 12426, 11547, 12427, 13010, 11867, 12552, 12548 in doc 11-18/0365r1?**
         1. **Discussion – no discussion.**
         2. **Result: No objection.**
      4. Next Step
         1. The document 11-18-0363-01 is ready for motion.
   2. **Abhishek Patil (Qualcomm) presented “CIDs in 10.2.6,” based on the submission 11-18-0362-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 subclause 10.2.6 (Combined use of DCF, PCF, HCF and MUUA) with the following CIDs are proposed.
            1. CIDs: 13042 and 13073 (2 CIDs).
      2. Discussion
         1. Chair mentioned that we agreed not to introduce new coordination functions with the ARC SC. Need to go back to ARC SC to do this.
         2. A member commented on the name of the new CF (Trigger-Based coordination function).
      3. **Straw Poll: Do you accept resolutions to CIDs; 13042 and 13073 in doc 11-18/0362r0?**
         1. **Result: Accepted with no objection.**
      4. Next Step
         1. TGax chair to talk to the chair of ARC SC to include this item to their agenda..
   3. **Abhishek Patil (Qualcomm) presented “Resolutions to varuous CIDs in Trigger Frame format,” based on the submission 11-18-0366-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 with the following CIDs are proposed.
            1. CIDs: 11514, 14349, 11924, 11372, 11538, 13539, 12720, 13329, 11539, 12806, 11541, 12873, 13332, 13085, 11915, 12376, 11981, 11738, 13846, 11982, 12377, 12355, 13334, 12378.
      2. Discussion
         1. People discussed about the terminology related to the non-OFDMA PPDU.
         2. CID 1195, 12376 needs more discussions to reach consensus.
      3. Next Step
         1. Chair suggested offline discussions.
      4. **Straw Poll: Do you agree to resolutions to CIDs; 11514, 14349, 11924, 11372, 11538, 13539, 12720, 13329, 11539, 12806, 11541, 12873, 13332, 13085, 11915, 12376, 11981, 11738, 13846, 11982, 12377, 12355, 13334, 12378 in doc 11-18/0366r2?**
         1. **Result: No objection to resolutions of the rest of the CIDs.**
         2. **Remark: CID 13329 is removed from this document**
      5. Next Step
         1. The document 11-18-0366 is ready for motion.
6. **Recess @ 10:30 for 15 minutes.**
7. **Meeting recovened @ 10:45**
8. **Comment Resolutions**
   1. **Zhou Lan (Broadcom) presented “CR on CID 12699, 13220,” based on the submission 11-18-0446-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 with the following CIDs are proposed.
            1. CIDs: 12699 and 13220 (2 CIDs).
      2. Discussion
         1. People discussed TB sounding and non-TB sounding. Zhou prposes CQI-only feedback
         2. There was a comment that we should discuss it with PHY experts. 🡪 Chair mentioned that we can schedule the time for joint discussion of PHY and MAC.
      3. Next Step
         1. Chair will arrange a joint discussion on this topic.
   2. **Chao-Chun Wang (MediaTek) presented “11ax D1.0 MAC Comment Resolution for 9.4.2.24,” based on the submission 11-18-0443-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 subclause 9.4.2.4.242, 9.2.4.243 and 9.6.30 related to Quiet Time with the following CIDs are proposed.
            1. CIDs: 12568, 13848, 11922, 12208, 12566, 12567, 11253, 11254, 11025, 11026, 13183, 13184 and 11515 (13 CIDs).
      2. Discussion
         1. Some comments are rejected since they are out of scope.
         2. People discussed about the case of HE STA participating peer-to-peer communication.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 12568, 13848, 11922, 12208, 12566, 12567, 11253, 11254, 11025, 11026, 13183, 13184, 11515 (13 CIDs) in doc 11-18/0366r2?**
         1. **Result: No objection.**
      4. Next Step
         1. Document 11-18-0443 is ready for motion.
   3. **Chao-Chun Wang (MediaTek) presented “11ax D2.0 MAC Comment Resolution for 27.16.4,” based on the submission 11-18-0444-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 subclause 27.16.4 (Quiet HE STAs in an HE BSS) with the following CIDs are proposed.
            1. CIDs: 12101, 11380, 11870, 12212 , 11161, 11361 ,11871, 12042 ,13528, and 13529 (10 CIDs).
      2. Discussion
         1. CID11161: People discussed related CCA rule. There should be an unique set of rules. 🡪 Chao-Chun to revise the related text and upload r1 to the server.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 12101, 11380, 11870, 12212 , 11161, 11361 ,11871, 12042 ,13528 , 13529 (10 CIDs) in doc 11-18/0444r0?**
         1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. Document 11-18-0444-01 is ready for motion.
   4. **Abhishek Patil (Qualcomm) presented “CIDs in 27.5.3.3,” based on the submission 11-18-0367-01.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 subclause 27.5.3.3 (STA behavior for UL MU operation) with the following CIDs are proposed.
            1. CIDs: 11027, 11061, 11375, 11376, 11988, 12452, 12453, 12098 (8 CIDs).
      2. Discussion
         1. No discussion.
9. **Recess for Lunch @ 12:00 until 13:00.**

**Lunch Break**

1. **Meeting reconvened @ 13:00.**
2. **Comment Resolutions**
   1. **Abhishek Patil (Qualcomm) continued presentation of “CIDs in 27.5.3.3,” based on the submission 11-18-0367-01.**
      1. Discussion
         1. A member discussed potential changes to the proposed text. 🡪 Current text is okay.
         2. Another member suggested some changes to the proposed text.
      2. **Straw Poll: Do you accept resolution to CIDs 11317, 11318, 11319, 11730, 13144, 12507 in doc 11-18/0367r1?**
         1. **Result: No objection to the resolutions.**
      3. Next Step
         1. Document 11-18-0367-01 is ready for motion.
   2. **Abhishek Patil (Qualcomm) presented “Resolutions to various CIDs in clause 9,” based on the submission 11-18-0369-00.**
      1. Summary
         1. Resolutions for following CID received for TGax LB230 on Clause 9 (Frame format) are proposed:
            1. CIDs: 13975, 11175, 12859, 12860, 11009, 11010, 11373, 11012, 11017, 11018, 11019, 11024, 11970, 13755, 12987 (15 CIDs).
      2. Discussion
         1. CID 13975: There was a comment that the text referring to “current operating channel” is not necessary. The resolution for this CID was deferred by request.
         2. CID 11019: Some people do not agree with the changed text related to this CID.
         3. Some more dicussions on other CIDs such as 11018 and 11970.
      3. **Straw Poll: Do you agree to resolutions to CIDs 13975, 11175, 12859, 12860, 11009, 11010, 11373, 11012, 11017, 11018, 11019, 11024, 11970, 13755, 12987 in doc 11-18/0369r4??**
         1. **Result: Resolutions to CIDs written in black are approved with no objection.**
      4. Next Step
         1. CIDs written in black are ready for motion.
         2. Will be rescheduled to address CID written in red
   3. **Abhishek Patil (Qualcomm) presented “CIDs related to Random Access – Part 2,” based on the submission 11-18-0360-01.**
      1. Summary
         1. Resolutions for following CID on Random Access received for TGax LB230 are proposed:
            1. CIDs: 13651, 11034, 13097, 13197.
      2. Discussion
         1. People asked for clarification of the proposed text related to the spec of 9.6.8.36 (FILS Discovery frame format).
         2. People discussed about the text in clause 27.5 related to TXVECTOR parameters.
         3. Many comments from the participants 🡪 The proposed text was modified and the document was updated.
         4. Long discussion continued.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 13651, 11034, 13097, 13197 in doc 11-18/0360r2?**
         1. **Result: No objection.**
      4. Next Step
         1. Document 11-18-0360-02 is ready for motion.
3. **Recess @ 15:20**

**Break**

1. **Meeting reconvened @ 15:50.**
2. **Comment Resolutions**
   1. **Abhishek Patil (Qualcomm) continued presentation of “Resolution for CID 11742,” based on the submission 11-17-1859-03.**
      1. Summary
         1. Resolutions for CID 11742 received for TGax LB230 is proposed.
            1. CID 11742: Multiple-BSSID related comment.
         2. A signalling scheme using the HE Operation element is proposed to
      2. Discussion
         1. Text for subclause 27.16a (Co-Located BSSID Set) is modified based on the comment from a member. The document is updated (r4)
      3. **Straw Poll: Do you agree to resolutions to CIDs 11742, 11023, 11876, 13141 in doc 11-17/1859r4?** 
         1. **Result: No objection.**
      4. Next Step
         1. The document 11-17-1859-04 is ready for motion..
   2. **Ming Gan (Huawei Technologies) presented “LB230 CR on Fragmentation-Part 2,” based on the submission 11-18-0433-00.**
      1. Summary
         1. Resolution for the following CIDs received for 802.11ax draft 2.0 on HE Fragmentation and changes to the spec text are proposed.
            1. CIDs: 13889, 13888, 13892, 13893, 13166, 13167, 13169, 13113, 12466, 12468, 13894, 12009, 12469, 13168, 13114, 12470, 13895, 12471, 13896, 11673, 11674, 12011, 12472, 13898, 13897, and 12473 (26 CIDs).
      2. Discussion
         1. Re: CID 13895: ADDBA Extension element – People discussed to clarify the condition to include this element.
         2. CIDs 13893, 13894 and 13895 are deferred by request from a member.
      3. **Straw Poll: Do you accept resolutions to CIDs; 13889, 13888, 13892, 13893, 13166, 13167, 13169, 13113, 12466, 12468, 13894, 12009, 12469, 13168, 13114, 12470, 13895, 12471, 13896, 11673, 11674, 12011, 12472, 13898, 13897, 12473 (26 CIDs) in doc 11-18/0433r0?**
         1. **Result: No objection to resolutions of CIDs written in black**
         2. **CIDs in red are for further discussion**
      4. Next Step
         1. This submission will be revisited later.
   3. **Ming Gan (Huawei Technologies) presented “LB230 CR on Fragmentation-Part 4,” based on the submission 11-18-0432-00.**
      1. Summary
         1. Resolution for the following CIDs received for 802.11ax draft 2.0 on HE Fragmentation and changes to the spec text are proposed.
            1. CIDs: 13051, 12393, 13816, 12386, 13050, 12414, 12415, 12416, 12166, 12167, 12231, 12233, 13100, 11173, 11857, 12759, 12168, 12235, 12777, 12130, 12257, 12131, and 12260 (23 CIDs)
      2. Discussion
         1. Re: CID 12393: The resolution is changed from Accept to Revised considering the comment from a participant.
         2. Re: CID 13816: People discussed the interpretation of the comment..
      3. Next Step
         1. Could not finish Ming’s presentation. To be continued tomorrow.
3. **AOB**
   1. None.
4. **Recess**
   1. Meeting is in recess @ 17:57 until 9:00 AM tomorrow morning.
5. **List of Attendees – following people were on the call.**

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|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Alfred Asterjadhi | Qualcomm |
| 3 | Laurent Cariou | Intel |
| 4 | George Cherian | Qualcomm |
| 5 | Liwen Chu | Marvell Semiconductors |
| 6 | Ming Gan | Huawei Technologies |
| 7 | Jason Yuchen Guo | Huawei Technologies |
| 8 | Po-Kai Huang | Intel |
| 9 | Chunyu Hu | Broadcom Ltd. |
| 10 | Yasuhiko Inoue | NTT |
| 11 | Jeongki Kim | LG Electronics |
| 12 | Jarkko Knect | Apple |
| 13 | Zhou Lan | Broadcom Ltd. |
| 14 | Guoqing Li | Apple |
| 15 | Yunbo Li | Huawei Technologies |
| 16 | Kaying Lv | ZTE |
| 17 | Pooya Monajemi | Cisco Systems |
| 18 | Patrice Nezou | Canon |
| 19 | Minyoung Park | Samsung |
| 20 | Abhishek Patil | Qualcomm |
| 21 | Al Petrick | InterDigital Communications |
| 22 | Kiseon Ryu | LG Electronics |
| 23 | Yongho Seok | MediaTek |
| 24 | Robert Stacy | Intel |
| 25 | Bo Sun | ZTE |
| 26 | Huizhao Wang | Quantenna Communications |
| 27 | James Wang | MediaTek |
| 28 | Xiaofei Wang | InterDigital Communications |
| 29 | David Xun Yang | Huawei Technologies |
| 30 | James Yee | MediaTek |
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# Friday, March 2nd, 2018, 9:00 – 17:00, TGax ad hoc Day 3

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 09:00 (Local Time).**
2. **Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and IEEE 802.11 Policy and Procedure.
3. **Agenda Setting**
   1. Proposed Agenda
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Call for submissions
      5. Set agenda
      6. Presentations and Comment Resolution
      7. Adjourn
   2. Meeting schedule
      1. 09:00 – 09:05 Call meeting to order and IPR reminder
      2. 09:05 – 10:30 Comment resolution
      3. 10-30 – 10:45 Break
      4. 10:45 – 12:00 Comment Resolution
      5. 12:00 – 1:00 Lunch
      6. 13:00 – 15:00 comment resolution
      7. 15:00 – 15:30 Break
      8. 15:30 – 17:00 comment resolution
   3. Approval of the agenda
      1. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      2. The agenda was approved.
4. **Progress Review**
   1. .
5. **Comment Resolutions**
   1. **Ming Gan (Huawei Technologies) presented “LB230 CR on Fragmentation-Part 2,” based on the submission 11-18-0433-01.**
      1. Summary
         1. 11-18-0433-01: CIDs deferred yesterday are revised considering the comments received from the participants.
            1. Relevant CIDs: 13893, 13894, and 13895.
      2. Discussion
         1. The resolutions for CID 13893, 13894 and 13895 satisfy the comments from the participant commented yesterday.
      3. **Straw Poll: Do you accept resolutions to CIDs; 13889, 13888, 13892, 13893, 13166, 13167, 13169, 13113, 12466, 12468, 13894, 12009, 12469, 13168, 13114, 12470, 13895, 12471, 13896, 11673, 11674, 12011, 12472, 13898, 13897, 12473 (26 CIDs) in doc 11-18/0433r1?**
         1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Document 11-18-0433-01 is ready for motion.
   2. **Ming Gan (Huawei Technologies) presented “LB230 CR on Fragmentation-Part 4,” based on the submission 11-18-0432-00.**
      1. Summary
         1. This is continuation of Ming’s presentation 11-18-0432-00 from yesterday.
      2. Discussion
         1. CID 12759: There was a request for clarification what exactly the fragmentation size means. 🡪 MPDU frame body.
         2. CID 12386: A participant mentioned that the comment says there is inconsistency in the spec, however, information of what is inconsistent is not enough. Another participant mentioned the reason to initiate the change is not clear enough.
      3. Next Step
         1. The document 11-18-0432-00 needs further discussion..
6. **Break @ 10:25 until 10:40.**

<<Break>>

1. **Meeting reconvened 10:40.**
2. **Comment Resolutions**
   1. **Matthew Fischer (Broadcom Ltd.) presented “Fragment Flushing BlockAckReq,” based on the submission 11-18-0218-00.**
      1. Summary
         1. This is a new proposal to create a mechanism for a transmitter to command a flush of incomplete MSDUs within the RX Buffer.
         2. The motivation for this feature is to allow simplified implementation of transmitter side fragmentation.
         3. This is not related to any CIDs.
      2. Discussion
         1. A member asked if this is related to 802.11ax (TGmd may be the right place to do this work).
         2. People discussed the benefit of the proposed mechanism. 🡪 The transmitter can change the fragment size.
         3. People also discussed the use case of this mechanism. 🡪 E.g., after channel switch.
         4. Some participants asked if any response is anticipated for the Fragment Flushing BlockAckReq. 🡪 Just normal ACK will be enough.
      3. Next Step
         1. Chair proposed to have some time before taking the straw poll.
         2. This will be discussed in the TGax session next week.
   2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 10.43,” based on the submission 11-18-0337-00.**
      1. Summary
         1. Resolutions for comments of TGax Draft 2.0 subclause 10.43 (Target Wake Ttime) with the following CIDs are proposed.
            1. CIDs: 11027, 11061, 11375, 11376, 11988, 12452, 12453, 12098 (8 CIDs).
      2. Discussion
         1. CID 11376: People discussed the relationship between the proposed resolution and broadcast TWT. As the result, new text was added for clarification.
         2. There was a discussion about the content of Table 10-19a (Alternate TWT).
      3. **Straw Poll: Do you accept resolutions to CIDs 11027, 11061, 11375, 11376, 11988, 12452, 12453, 12098 (8 CIDs) in doc 11-18/0337r1?**
         1. **Result: Resolutions are accepted with no objection.**
      4. Next Step
         1. The document 11-18-0337-01 is ready for motion.
3. **Recess for Lunch @ 11:45 until 12:45.**

<<Lunch Break>>

1. **Meeting reconvened @ 12:45.**
2. **Comment Resolutions**
   1. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.16.1,” based on the submission 11-18-0338-00.**
      1. Summary
         1. Rresolutions for comments related to TGax D2.0 subclause 27.16.1 (Basic HE BSS functionality) with the following CIDs are proposed.
            1. Relevant CIDs: 12581, 13836 ( 2 CIDs).
      2. Discussion
         1. CID 13836: There was a request for further offline discussion. 🡪 CID 13836 deferred.
         2. The other CID is okay.
      3. **Straw Poll: Do you agree to the resolution to CID 12581 in doc 11-18/0338r1?**
         1. **Result: No objection.**
            1. **CID 13836 is for further discussion.**
      4. Next Step
         1. CID 13836 is for further discussion.
   2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.5,” based on the submission 11-18-0370-00.**
      1. Summary
         1. Rresolutions for comments related to TGax D2.0 subclause 27.7.5 (PS operation during TWT SPs) with the following CIDs are proposed.
            1. Relevant CIDs: 11353, 11854, 12539, 13793, 13926, 13927 (6 CIDs)
      2. Discussion
         1. The proposed resolution for CID 11353 is deferred.
      3. **Straw Poll: Do you accept resolutions to CIDs 11353, 11854, 12539, 13793, 13926, 13927 (6 CIDs) in doc 11-18/0370r1?**
         1. **Result: Resolutions for CIDs written in black are accepted.**
            1. **The red CID is for further discussion**
      4. Next Step
         1. CIDs written in black are ready for motion.
   3. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.4,” based on the submission 11-18-0371-01.**
      1. Summary
         1. Rresolutions for comments related to TGax D2.0 subclause 27.7.4 (Use of TWT information frame) with the following CIDs are proposed.
         2. Relevant CIDs: 12228, 12531, 11041, 11350, 11351, 11352, 11853, 12538, 13792 (9 CIDs).
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs 12228, 12531, 11041, 11350, 11351, 11352, 11853, 12538, 13792 (9 CIDs) in doc 11-18/0371r1?**
         1. **Result: CIDs written in black are accepted with no objection.**
      4. Next Step
         1. Document 11-18-0371-01 is ready for motion.
   4. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 9.4.2.200 part 2,” based on the submission 11-18-0372-00.**
      1. Summary
         1. Resolutions for multiple comments related to TGax D2.0 subclause 9.4.2.200 (TWT element) with the following CIDs:
            1. Relevant CIDs: 11835 (1 CID)
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you agree to resolution of the CID 11835 in doc 11-18/0372r1?**
         1. **Result: Accepted with no objection.**
      4. Next Step
         1. The CID 11835 is ready for motion.
   5. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.3.4,” based on the submission 11-18-0373-00.**
      1. Summary
         1. Resolutions for multiple comments related to TGax D2.0 subclause 9.4.2.200 with the following CIDs:
            1. Relevant CIDs: 11849, 11850, 11852, 12095, 12305, 12528, 12529, 12530, 12246, 12531, 13040, 13791 (11 CIDs)
      2. Discussion
         1. People discussed the benefit of this proposal. 🡪 AP can distribute wake up timing of STAs to multiple Beacon intervals.
      3. **Straw Poll: Do you agree to resolutions to CIDs 11849, 11850, 11852, 12095, 12305, 12528, 12529, 12530, 12246, 12531, 13040, 13791 (11 CIDs) in doc 11-18/0373r0?**
         1. **Result: Accepted with no objection.**
      4. Next Step
         1. The document 11-18-0373-00 is ready for motion.
   6. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 9.3.3.X,” based on the submission 11-18-0379-00.**
      1. Summary
         1. Resolutions for comments related to TGax D2.0 subclause 9.3.3 (Management frames) with the following CIDs:
            1. 11918, 12381, 12382, 12383, 12384, 12385, 12431 (7 CIDs)
      2. Discussion
         1. There was a request to defer CID 12383 for more discussion.
      3. **Straw Poll: Do you agree to resolutions to CIDs 11918, 12381, 12382, 12383, 12384, 12385, 12431 (7 CIDs) in doc 11-18/0379r1?**
         1. **Result: CIDs written in black are accepted with no objection.**
      4. Next Step
         1. CIDs written in black are ready for motion.
   7. **Abhishek Patil (Qualcomm) presented “Resolutions to various CIDs in clause 9,” based on the submission 11-18-0369-03.**
      1. Summary
         1. The document 18/369 was updated considering the comment from participants and revisited.
            1. Relevant CIDs: 13975, 12860, 11018, and 11019 (4 CIDs)..
      2. Discussion
         1. Re: CID 11018: People discussed the NDP feedback report.
         2. CID 11019 needs further discussion to reach consensus.
      3. **Straw Poll: Do you agree to resolutions to CIDs 13975, 11175, 12859, 12860, 11009, 11010, 11373, 11012, 11017, 11018, 11019, 11024, 11970, 13755, 12987 in doc 11-18/0369r4?**
         1. **Result: Resolutions to CIDs written in black are approved with no objection**
      4. Next Step
         1. Will be rescheduled to address CID written in red.
   8. **Abhishek Patil (Qualcomm) presented “Resolutions to various CIDs in Trigger Frame format,” based on the submission 11-18-0366-01.**
      1. Summary
         1. Resolutions for the following CIDs on and changes to the spec text are proposed.
            1. Relevant CIDs: .
      2. Discussion
         1. CID 13329 needs to be discussed in PHY ad hoc and removed from this document.
         2. People discussed about the CID 11915. 🡪 The resolution fot the CID was eventually accepted.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 11514, 14349, 11924, 11372, 11538, 13539, 12720, ~~13329~~, 11539, 12806, 11541, 12873, 13332, 13085, 11915, 12376, 11981, 11738, 13846, 11982, 12377, 12355, 13334, 12378 in doc 11-18/0366r2?**
         1. **Result: CID 13329 is removed from this document.**

**No objection to resolutions of the rest of the CIDs.**

* + 1. Next Step
       1. The document 18/366r2 is ready for motion.
  1. **Ming Gan (Huawei Technologies) presented “LB230 CR on Fragmentation-Part 4, “ based on the submission 11-18-0432-00.**
     1. Summary
        1. Ming updated the resolutions for the remaining four CIDs in 11-18-0432.
           1. The resolutions for these CIDs are all rejected.
     2. Discussion
        1. No discussion.
     3. **Straw Poll: Do you accept resolutions to CIDs; 13051 12393 13816 12386 13050 12414 12415 12416 12166 12167 12231 12233 13100 11173 11857 12759 12168 12235 12777 12130 12257 12131 12260 (23 CIDs) in doc 11-18/0432r1?**
        1. **Result: No objection to resolutions of all the comments.**
     4. Next Step
        1. All CIDs are ready for motion.

1. **Recess @ 14:50 until 15:05.**

**<<Afternoon Break>>**

1. **Meeting reconvened @ 15:05.**
2. **Comment Resolutions**
   1. **Matthew Fischer (Broadcom Ltd.) presented “Disallowed Sub channels,” based on the submission 11-18-0496-00.**
      1. Summary
         1. Proposed to add a new field to the end of the HE Operation IE called Operational Subchannel Information field.
         2. One additional bit called Punctured Operation is added inside of the HE Operation Information field to signal the presence/absence of the new field.
         3. Related CID: 14334.
      2. Discussion
         1. Matt would like to discuss the concept of this feature.
         2. A participant discussed the resolution of the subchannel which is currently 5 MHz. 🡪This is just an example.
         3. Another member asked why to add this new feature. 🡪 It is to trigger a joint discussion between PHY and MAC ad hocs.
      3. Next Step
         1. To have more time for discussion.
   2. **Laurent Cariou (Intel) presented “CR for OBSS-PD SR,” based on the submission 11-18-0467-00.**
      1. Summary
         1. Resolutions for two CIDs (#12429 and 11736) are proposed.
      2. Discussion
         1. A member asked for clarification (typo of subclause number). 🡪 Corrected. The document is updated to r1.
         2. Another member discussed the importance of setting AGGREGATION parameter to 0 in the TXVECTOR.
      3. **Straw Poll: Do you agree to resolutions to CIDs 12429 and 11736 in doc 11-18/04657r1?**
         1. **Remark: Resolutions to the two CIDs were approved in January. This submission provides a new resolutions to the two CIDs.**
         2. **Result: No objection to accept the new resolutions.**
      4. Next Step
         1. Document 11-18/0467r1 is ready for motion.
   3. **Laurent Cariou (Intel) presented “CIDs related to 27.5.6 – Part 2,” based on the submission 11-18-0396-00.**
      1. Summary
         1. Proposed resolutions and modifications to the spec text for CIDs 13416, 14269, 12299 related to subclause 27.5.6 (NDP feedback report procedure) are contained in this document.
      2. Discussion
         1. People would like to have more time to review the proposal.
      3. Next Step
         1. Wait to check the spec.
   4. **Laurent Cariou (Intel) presented “CR for NDP feedback report – part 1,” based on the submission 11-18-0149-00.**
      1. Summary
         1. Resolutions and proposed modifications to the spec text for CIDs on the NDP feedback report procedure are contained in this document.
            1. Relevant CIDs: 11894, 12388, 13863, 12380, 13540, 11542, 13415, 14197, 13646, 11886, 11471, 14268, 12300, 13199, 14130, 12301, 12298, 13412, 13547, 14198, 12297, 13768, 12296, 11552, 12063, 11553, 14270, 11554, 11555, 14132 (30 CIDs).
      2. Discussion
         1. Some members requested to defer CIDs 12300, 12301, and 13415 for more discussion.
3. **AoB**
   1. 2 minutes left. No business to conduct in 2 minutes.
4. **Adjourn**
   1. **TGax ad hoc March 2018 adjourned @ 16:58 (Local Time)**
5. **List of attendees**

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| --- | --- | --- |
|  | **Name** | **Affiliation** |
| 1 | Osama Aboul-Magd | Huawei Technologies |
| 2 | Alfred Asterjadhi | Qualcomm |
| 3 | Laurent Cariou | Intel |
| 4 | George Cherian | Qualcomm |
| 5 | Liwen Chu | Marvell Semiconductors |
| 6 | Vinko Erceg | Broadcom |
| 7 | Matthew Fischer | Broadcom |
| 8 | Ming Gan | Huawei |
| 9 | Jason Yuchen Guo | Huawei |
| 10 | Chunyu Hu | Broadcom Ltd. |
| 11 | Po-Kai Huang | Intel |
| 12 | Yasuhiko Inoue | NTT |
| 13 | Jeongki Kim | LG Electronics |
| 14 | Jarkko Knect | Apple |
| 15 | Zhou Lan | Broadcom |
| 16 | Guoqing Li | Apple |
| 17 | Yunbo Li | Huawei Technologies |
| 18 | Kaying Lv | ZTE |
| 19 | Patrice Nezou | Canon |
| 20 | Abhishek Patil | Qualcomm |
| 21 | Al Petrick | InterDigital Communications |
| 22 | Kiseon Ryu | LG Electronics |
| 23 | Yongho Seok | MediaTek |
| 24 | Chao-Chun Wang | MediaTek |
| 25 | Huizhao Wang | Quantenna Communications |
| 26 | James Wang | MediaTek |
| 27 | Xiaofei Wang | InterDigital |
| 28 | James Yee | MediaTek |