IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TGax MAC Ad Hoc May 2018 Meeting Minutes | | | | |
| Date: 2018-05-22 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Yasuhiko Inoue | NTT | 1-1 Hikaro-no-oka, Yokosuka, Kanagawa 239-0847 Japan | ++81-46-859-5097 | inoue.yasuhiko@lab.ntt.co.jp |
|  |  |  |  |  |

Abstract

This document contains minutes of TGax MAC Ad Hoc Meeting Minutes from May 2018 Warsaw Meeting.

Rev. 0: Initial version.

**Monday, May 7th, 2018, 19:30 – 21:30 TGax MAC ad hoc**

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 9:00 AM (local time).**
   1. Introduction of the chair pro-tem Osama Aboul-Magd (Huawei Technologies) and the secretary, TGax MAC ad hoc this week, Yasuhiko Inoue (NTT).
   2. Agenda: 11-18-914 (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. Meeting schedule

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Monday | | Tuesday | | Wednesday | | Thursday | |
| AM1 |  | |  |  | TGax (full) | | TGax (full) | |
| AM2 |  |  | PHY | MAC |  | |  |  |
| PM1 | TGax (full) | |  |  |  |  | TGax (full) | |
| PM2 |  |  | PHY | MAC | MU | MAC |  |  |
| EVE | SR | MAC | PHY | MAC |  | |  | |

1. **Agenda for the Monday evening session**
   1. Proposed agenda
      1. Call meeting to order
      2. Patent policy, etc.
      3. Cal for submissions.
      4. Comment Resolution
   2. 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.
      3. The agenda was approved.
2. **Call for submissions**
   1. Chair included an excel file to the agenda file.
   2. Submission for MAC ad hoc is listed below.
      1. 11-18-0044, “LB230 MAC CR 27.7 and 27.7.1,” Alfred Asterjadhi (Qualcomm)
      2. 11-18-0077, “D2.0 comment resolution 27.4.2,” Liwen Chu (Marvell)
      3. 11-18-0083, “LB230 CR for BSS Load Text,” Frank Hsu (MediaTek)
      4. 11-18-0155, “Resolutions for CIDs related to GCR,” Yusuke Tanaka (SONY)
      5. 11-18-0161, “CR CID 13754,” Zhou Lan (Broadcom Ltd)
      6. 11-18-0181, “LB230 CR on BSS Load Information in subclause 9.4.2,” Ming Gan (Huawei)
      7. 11-18-0200, “Decouple Channel Width Capabilities Between VHT and HE Modes,” Huizhao Wang
      8. 11-18-0218, “Fragment Flushing BlockAckReq,” Matthew Fischer (Broadcom Ltd.)
      9. 11-18-0368, “Muliple BSSID,” Abhishek Patil (Qualcomm)
      10. 11-18-0378, “LB230-MAC-CR-9.3.1.20\_part 2,” Alfred Asterjadhi (Qualcomm)
      11. 11-18-0380, “LB230-MAC-CR-Some CIDs in 9.4.2.237,” Alfred Asterjadhi (Qualcomm)
      12. 11-18-0424, “D2.0 comment resolution-CID 11327,” Liwen Chu (Marvell)
      13. 11-18-0425, “D2.0 comment resolution 9.7.1,” Liwen Chu (Marvell)
      14. 11-18-0426, “D2.0 comment resolution 9.7.3,” Liwen Chu (Marvell)
      15. 11-18-0427, “D2.0 comment resolution 27.10.2,” Liwen Chu (Marvell)
      16. 11-18-0428, “D2.0 comment resolution 27.10.3,” Liwen Chu (Marvell)
      17. 11-18-0431, “comment-resolution-on-cid-13082-13083-and-14141,” Jason Yuchen Guo (Huawei)
      18. 11-18-0454, “CR for CID 11499 and 14324,” Kiseon Ryu (LG Electronics)
      19. 11-18-0496, “Disallowed-Sub-Channels,” Matthew Fischer (Broadcom Ltd.)
      20. 11-18-0548, “CR for CID 13415,” Yunbo Li (Huawei)
      21. 11-18-0558, “Comment resolution for 27.2.2 part 1,” Kaiying Lv (ZTE)
      22. 11-18-0602, “lb230-cr-cid13870,” Yongho Seok (MediaTek)
      23. 11-18-0603, “lb230-cr-cid13530-14183,” Yongho Seok (MediaTek)
      24. 11-18-0604, “lb230-cr-preamble-puncturing,” Yongho Seok (MediaTek)
      25. 11-18-0627, “lb230-cr-ht-control,” Yongho Seok (MediaTek)
      26. 11-18-0628, “lb230-cr-sta-id-list,” Yongho Seok (MediaTek)
      27. 11-18-0629, “lb230-cr-uplink-flag,” Yongho Seok (MediaTek)
      28. 11-18-0630, “lb230-cr-he-sounding-ndp,” Yongho Seok (MediaTek)
      29. 11-18-0660, “LB230-MAC-CR-Misc Part 2,” Alfred Asterjadhi (Qualcomm)
      30. 11-18-0661, “LB230-MAC-CR-27.7.2,” Alfred Asterjadhi (Qualcomm)
      31. 11-18-0662, “LB230-MAC-CR-27.7.3.1,” Alfred Asterjadhi (Qualcomm)
      32. 11-18-0663, “LB230-MAC-CR-27.7.3.2,” Alfred Asterjadhi (Qualcomm)
      33. 11-18-0664, “LB230-MAC-CR-27.7.3.3,” Alfred Asterjadhi (Qualcomm)
      34. 11-18-0665, “LB230-MAC-CR-10.22.2.9-revisit,” Alfred Asterjadhi (Qualcomm)
      35. 11-18-0684, “LB230-MAC-CR-Misc Part 3,” Alfred Asterjadhi (Qualcomm)
      36. 11-18-0685, “LB230-MAC-CR-Misc Part 4,” Alfred Asterjadhi (Qualcomm)
      37. 11-18-0688, “CR for NAV Part IV,” Po-Kai Huang (Intel)
      38. 11-18-0693, “Multiple BSSID Group Addressed Transmission,” Po-Kai Huang (Intel)
      39. 11-18-0705, “CR-section 4 and 5,” Guoqing Li (Apple)
      40. 11-18-0717, “Remaining CIDs on section 27.4 (Ack related),” Guoqing Li (Apple)
      41. 11-18-0720, “CR-section 9.4.1.17,” Guoqing Li (Apple)
      42. 11-18-0724, “Remaining Ack related CRs on misc sections,” George Cherian (Qualcomm)
      43. 11-18-0726, “lb230-cr-mac\_miscellaneous,” Yongho Seok (Mediatek)
      44. 11-18-0733, “Resolutions to LB230 comments submitted to subclauses 9.3.1.8 and 10.24.6,” Tomoko Adachi (Toshiba)
      45. 11-18-0734, “Resolutions to LB230 comments submitted to subclause 9.3.1.9.1,” Tomoko Adachi (Toshiba)
      46. 11-18-0737, “Single-STA trigger-based sounding,” Mark Rison (Samsung)
      47. 11-18-0739, “CIDs in 27.7.3.1 (TWT),” Abhishek Patil (Qualcomm)
      48. 11-18-0740, “Various CIDs in Clause 9,” Abhishek Patil (Qualcomm)
      49. 11-18-0741, “Various CIDs in 27.5,” Abhishek Patil (Qualcomm)
      50. 11-18-0744, “CID 13078,” Abhishek Patil (Qualcomm)
      51. 11-18-0745, “CR BQR part2,” Zhou Lan (Broadcom Ltd.)
      52. 11-18-0763, “CR for PICS comments on D2.0 - Part 2,” Edward Au (Huawei)
      53. 11-18-0764, “LB230 CR on Fragmentation Part 3,” Ming Gan (Huawei)
      54. 11-18-0767, “CR on 27.5.6 Misc,” Laurent Cariou (Intel)
      55. 11-18-0792, “11ax D2.0 Comment Resolution 10.13.1 10.13.3,” Liwen Chu (Marvell)
      56. 11-18-0793, “11ax D2.0 Comment Resolution 9.4.2.237.2,” Liwen Chu (Marvell)
      57. 11-18-0794, “11ax D2.0 Comment Resolution CID 11314, 12883,” Liwen Chu (Marvell)
      58. 11-18-0795, “11ax D2.0 BSS Operation BW,” Liwen Chu (Marvell)
      59. 11-18-0796, “11ax D2.0 Comment Resolution 27.10.4.2, 27.10.4.3,” Liwen Chu (Marvell)
      60. 11-18-0797, “11ax D2.0 Comment Resolution 27.10.4.1,” Liwen Chu (Marvell)
      61. 11-18-0798, “11ax D2.0 Comment Resolution 9.4.1.62,” Liwen Chu (Marvell)
      62. 11-18-0811, “lb230-CR-Dynamic-Fragmentation-Coex,” Frank Hsu (MediaTek)
      63. 11-17-1860, “Resolution for CID 11002,” Abhishek Patil (Qualcomm)
      64. 11-18-0813, “CR for CID 12295,” Jeongki Kim (LG Electronics)
      65. 11-18-0869, “CR on remaining CIDs for BSR,” Kiseon Ryu (LG Electronics)
      66. 11-18-0890, “Resolutions to LB230 comments submitted to subclauses 9.3.1.9.3 and 9.3.1.9.7,” Tomoko Adachi (Toshiba)
   3. The plan is to hear presentation whichever ready to present.
3. **Comment Resolutions**
   1. **Stephane Baron (Canon Research) presented “CIDs related to UORA procedure – Part 1 (Initialization),” based on the submission 11-18-0695-03.**
      1. Summary
         1. Resolutions with proposed changes to TGax D2.3 for the following CIDs received from the WG LB 230 related to UORA initialization.
            1. Relevant CIDs: 13400, 13653, 13761, 13095.
         2. This submission was discussed in the TGax ad hoc in Rennes, France last week.
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs; 13400, 13653, 13761, 13095 in doc 11-18/0695r3?** 
         1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. The document 11-18-0695-03 is ready for motion..
   2. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.3.3,” based on the submission 11-18-0664-00.**
      1. Summary
         1. Resolutions for the following comments related to TGax D2.0 on subclause 27.7.3.3 (Rules for TWT scheduled STA) are proposed.
            1. Relevant CIDs: 11844, 11846, 11847, 12184, 12238, 12523, 12524, 12525, 12526, 12527, 13790, 12306 (12 CIDs)
         2. This submission was discussed in the TGax ad hoc in Rennes, France last week.
      2. Discussion
         1. CID 12306: Excluded for more discussion with the commenter.
         2. A member suggested editorial changes. 🡪 The document was updated r1.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11844, 11846, 11847, 12184, 12238, 12523, 12524, 12525, 12526, 12527, 13790~~, 12306~~ (12 CIDs) in doc 11-18/0664r1?** 
         1. **Result: No objection.**
         2. **Remark: CID 12306 is deferred for discussion with the commenter.**
      4. Next Step
         1. Alfred to come back with the resolution for CID 12306.
   3. **Ming Gan (Huawei Technologies) presented “LB230 CR on BSS Load Information in subclause 9.4.2,” based on the submission 11-18-0181-01.**
      1. Summary
         1. Resolutions for the following comments received from WG LB 230 on subclause 9.4.2 (BSS Load Information) are proposed.
            1. Relevant CIDs: 12016 and 13045 (2CIDs)
         2. This submission was discussed in the TGax ad hoc in Rennes, France last week.
      2. Discussion
         1. A member is concerned by the increased complexity with this proposal.
      3. **Straw Poll (on this concept): Which option do you prefer? (choose one)**
         1. **Option 1:**
         2. **Option 2:**
         3. **Anstain**
         4. **Result: Option1/Option2/Abstain = 8/3/8.**
      4. Next Step
         1. Chair asked Frank to converge quickly.
   4. **Yusuke Tanaka (Sony) presented “,” based on the submission 11-18-0155-00.**
      1. Summary
         1. Resolutions to the CID 11092, 11320, 11810, 12852, 13190, 13315 (6 CIDs) received from WG LB 230 on GCR are proposed.
      2. Discussion
         1. CID 11320: A member asked for clarification of why we need this modification to the spec text. The commenter also asked for more time to think about the resolution.
      3. Next Step
         1. Yusuke to come back after discussion with members.
   5. **Tomoko Adachi (Toshiba) presented “Resolutions to LB230 comments submitted to subclauses 9.3.1.9.3 and 9.3.1.9.7,” based on the submission 11-18-0890-00.**
      1. Summary
         1. Resolutions for the following CIDs related to subclauses 9.3.1.9.3 (2 CIDs) and 9.3.1.9.7 (40 CIDs) are proposed.
            1. Relevant CIDs: 11114, 12362,

13234, 11746, 12363, 11510, 13525, 14340, 11178, 11747, 11748, 11912, 11115, 13526, 11749, 12006, 12365, 12370, 12596, 11461, 12005, 11165, 12077, 12371, 12696, 11750, 11913, 12366, 12583, 12901, 11856, 12004, 12082, 12083, 12577, 12744, 12991, 12598, 12367, 12694, 12372, 12369 ( 42 CIDs)

* + - * 1. Tomo’s presentation was interrupted due to lack of time.
      1. Time is up. 7 CIDs are left. 🡪 To be covered during Tuesday AM2 session.

1. **AoB**
   1. There will be TGax MAC ad hoc AM2, PM2 and EVE tomorrow.
2. **Recess @ 21:28.**

**Tuesday, May 8th, 2018, 10:30 – 12:30 TGax MAC ad hoc**

1. **Meeting called to order by Osama Abould-Magd, chair of the TGax and TGax ad hoc this week @ 10:30 AM.**
   1. Introduction of the front table.
2. **Agenda Setting**
   1. Proposed Agenda for Tuesday PM2
      1. Call the meeting to order
      2. IPR Policy and procedure
      3. Comment Resolution
   2. Chair asked if there are any items to add to the agenda. 🡪 No response.
      1. The agenda was accepted.
3. **IPR Policy and Procedure**
   1. Chair reminded that we are still operating under the IEEE-SA and IEEE 802 policies and procedures.
4. **Announcement**
   1. Chair asked people to state name and affiliation when speaking for the first time in the session.
   2. Attendance!
5. **Continue Comment Resolutions**
   1. **Tomoko Adachi (Toshiba) continued presentation of the “Resolutions to LB230 comments submitted to subclauses 9.3.1.9.3 and 9.3.1.9.7,” based on the submission 11-18-0890-01.**
      1. Summary
         1. Tomo explained the resolutions for the remaining 7 CIDs.
      2. Discussion
         1. People discussed the contents of Table 9-24b – a part of the proposed text is covered in the previous paragraph.
         2. A member mentioned that the CID 12372 is also related to fragmentation. 🡪 Tomo updated the proposed text.
         3. Another member discussed the relation between the AckType and TID value.
         4. CID 12369: A member mentioned a condition relates to Multi-TID A-MPDU needs to be added.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11114, 12362, 13234, 11746, 12363, 11510, 13525, 14340, 11178, 11747, 11748, 11912, 11115, 13526, 11749, 12006, 12365, 12370, 12596, 11461, 12005, 11165, 12077, 12371, 12696, 11750, 11913, 12366, 12583, 12901, 11856, 12004, 12082, 12083, 12577, 12744, 12991, 12598, 12367, 12694, 12372, 12369 in doc 11-18/0890r2?**
         1. **12369 is deferred (until Tuesday PM2)**
         2. **Result: Resolutions for the rest of CIDs are acceped.**
      4. Next Step
         1. Tomo to come back with updated resolution to CID 12369.
   2. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 Comment Resolution 27.10.2,” based on the submission 11-18-0428-00.**
      1. Summary
         1. Resolution for comments related to TGax D2.0 with the CID 12795 is proposed:
         2. Subclause 27.10.2: A-MPDU padding for an HE SU PPDU, HE ER SU PPDU and HE MU PPDU
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you accept the resolution to CID 12795 in doc 11-18/0428r0?**
         1. **Result: Acceped with no objection.**
      4. Next Step
         1. Ready for motion.
   3. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 Comment Resolution 27.10.2,” based on the submission 11-18-0427-01.**
      1. Summary
         1. Resolutions for CIDs 12218 and 13835 on Ack-enabled A-MPDU are proposed.
         2. The proposal is to add a definition of Ack-enabled A-MPDU in clause 3.1.
      2. Discussion
         1. A member suggested minor change to the prposed text.
      3. **Straw Poll: Do you accept resolutions to CIDs 12218, 13835 in doc 11-18/0427r2?**
         1. **Result: Acceped with no objection.**
      4. Next Step
         1. Ready for motion.
   4. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 Comment Resolution CID 11327,” based on the submission 11-18-0424-00.**
      1. Summary
         1. Resolution for CID 11327 on 27.5.3.5 (UL MU CS mechanism) is proposed.
      2. Discussion
         1. A member asked for consistency of proposed text with other part of the draft.
         2. Another member suggested an editorial change.
         3. There was a question asking the point of this proposal.
      3. Next Step
         1. SP was deferred. Need more discussion.
   5. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 27.7.2,” based on the submission 11-18-0661-02.**
      1. Summary
         1. Resolutions for the following comments related to TGax D2.0 on subclause 27.7.2 (Individual TWT agreement) are proposed.
         2. Alfred comes back with an update on the resolution to CID 12308 which was deferred during the last presentation.
      2. Discussion
         1. A member mentioned that the NOTE in the proposed text should be in the normative text. After discussion, the member accepted the current style.
      3. **Straw Poll: Do you accept resolutions to CID 12308 in 11-18/0661r2?** 
         1. **Result: Acceped with no objection.**
   6. **Alfred Asterjadhi (Qualcomm) presented “Comment resolutions for 10.22.2.9 (revisited),” based on the submission 11-18-0665-01.**
      1. Summary
         1. The document 18/665r1 is revisited after some updates on the proposed text for clause 10.22.2.9 (Truncation of TXOP).
      2. Discussion
         1. People discussed single NAV and two NAVs cases.
      3. **Straw Poll: Do you accept resolutions to CIDs; 12086, 12450 in doc 11-18/0665r1?** 
         1. **Result: Acceped with no objection.**
      4. Next Step
         1. Ready for motion.
   7. **Alfred Asterjadhi (Qualcomm) presented “Comment resolution for several miscellaneous comments part 3,” based on the submission 11-18-0684-02.**
      1. Summary
         1. Resolutions for the following comments related to TGax D2.0 are proposed.
            1. Relevant CIDs: 14239, 14240, 13670, 12939, 12837 (5 CIDs)
         2. The submission was discussed during the TGax ad hoc in Rennes, last week.
         3. The CID 14239 was deferred at that time.
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you accept resolutions to CID 14239 in doc 11-18/0684r2?** 
         1. **Result: Acceped with no objection.**
      4. Next Step
         1. Ready for motion.
   8. **Abhishek Patil (Qualcomm) presented “,” based on the submission 11-18-0368-06.**
      1. Summary
         1. This submission is not related to comment resolution.
         2. The subject is Multiple BSS.
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you agree to text changes in doc 11-18/0368r6?**
         1. **Result: Acceped with no objection.**
      4. Next Step
         1. Ready for motion
   9. **George Cherian (Qualcomm) presented “Remaining Ack related CRs,” based on the submission 11-18-0717-01**
      1. Summary
         1. Resolutions for the following comments are proposed.
            1. Relevant CIDs: 12480, 12498, 12574, 12903, 13259, 13268, 13273, 13274, 13275, 13280, 13666, 13667, 13723, 13907, 13908, 13909, 14111, 14248, 14249, 14250, 14251(21 CIDs)
      2. Discussion
         1. CID 12574: A member asked what was the change?
         2. CID 13280: Another memtioned it’s a kind of editorial.
      3. Next Step
         1. Time is up! George will continue his presentation.
6. **AoB**
7. **Recess @ 12:30 until PM2 today.**

**Tuesday, May 8th, 2018, 16:00 – 18:00 TGax MAC ad hoc**

1. **Meeting called to order @ 16:00, by Osama Aboul-Magd (Huawei Technologies).**
   1. Introduction of the front table.
2. **Agenda Setting**
   1. Call the meeting to order
   2. IPR Policy and procedure
   3. Comment Resolution
3. **IPR Policies and Procedures/Announcement**
   1. Chair reminded that we are still operating under the IEEE-SA and IEEE 802 committee.
   2. Attendance!
4. **Comment Resolutions**
   1. **George Cherian (Qualcomm) continued presentation of “Remaining Ack related CRs,” based on the submission 11-18-0717-00.**
      1. Summary
         1. Clarification was made to the text in 27.10.1 (A-MPDU operation).
      2. Discussion
         1. People discussed the selection of BlockAck Bitmap size and negotiated buffer size.
         2. Some members suggested further modifications. 🡪 Revision 1 of this document was created.
      3. **Straw Poll: Do you accept resolutions to CIDs; 12480, 12498, 12574, 12903, 13259, 13268, 13273, 13274, 13275, 13280, 13666, 13667, 13723, 13907, 13908, 13909, 14111, 14248, 14249, 14250, 14251 in doc 11-18/0717r1?** 
         1. **Result: Acceped with no objection to the proposed resolutions.**
      4. Next Step
         1. Ready for motion.
   2. **George Cherian (Qualcomm) continued presentation of “Remaining Ack related CRs on misc sections,” based on the submission 11-18-0724-00.**
      1. Summary
         1. Resolutions for the following comments on TGax draft 2.0 on Acknowledgment are proposed.
            1. Relevant CIDs: 11056, 11057, 11136, 11138, 11258, 11500, 11511, 11861, 12125, 12156, 12157, 12171, 12172, 12211, 12213, 12241, 12243, 12288, 12292, 12339, 12435, 12625, 12626, 12629, 12737, 12818, 13231, 13232, 13233, 13703, 13704, 13705, 13857, 13858, 13859, 14325, 14341 (37 CIDs).
      2. Discussion
         1. Re: CID 11056: This CID is covered by another submission.
         2. Re: CID 11861: A member commented that the BlockAckReq is a general term and can be applied to any types of BlockAckReq.
         3. Re: CID 12435: A member asked for more discussion
         4. Re: CID 12737: The resolution column is empty. 🡪 Need to update.
         5. Re: CID 14341: A member commented that the reason for the rejection is not valid. Offline discussion is requested.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11057, 11136, 11138, 11258, 11500, 11511, 11861, 12125, 12156, 12157, 12171, 12172, 12211, 12213, 12241, 12243, 12288, 12292, 12339, 12435, 12625, 12626, 12629, 12737, 12818, 13231, 13232, 13233, 13703, 13704, 13705, 13857, 13858, 13859, 14325, 14341 in doc 11-18/0724r1?**
         1. **Result:**
            1. **CID 12737 and 14341 are deferred.**
            2. **No objection to the resolutions for CIDs written in black.**
      4. Next Step
         1. George to come back with the deferred CIDs.
   3. **Tomoko Adachi (Toshiba) presented “Resolutions to LB230 comments submitted to subclauses 9.3.1.9.3 and 9.3.1.9.7,” based on the submission 11-18-0890-02.**
      1. Summary
         1. The document 18/890 was revisited with updates on the resolution to the CID 12369 remained from yesterday.
      2. Discussion
         1. No discussion
      3. **Straw Poll: Do you accept resolutions to CID 12369 in doc 11-18/0890r2?**
         1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Ready for motion.
   4. **Tomoko Adachi (Toshiba) presented “,” based on the submission 11-18-0733-02.**
      1. Summary
         1. Resolutions to the following CIDs on TGax draft 2.0 subclauses 9.3.1.8 (BlockAckReq frame format) and 10.24.6 (Selection of BlockAck and BlockAckReq variants) are proposed.
            1. Relevant CIDs: 11498, 14323, 13659 and 11056.
      2. Discussion
         1. No discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11498, 14323, 13659, 11056 in doc 11-18/0733r2?**
         1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Ready for motion.
   5. **Tomoko Adachi (Toshiba) presented “Resolutions to LB230 comments submitted to subclause 9.3.1.9.1,” based on the submission 11-18-0734-00.**
      1. Summary
         1. Resolutions for the following CIDs to 802.11ax draft 2.0 subclause 9.3.1.9 are proposed.
            1. Relevant CIDs: 11745, 11112, and 11113 (3CIDs).
      2. Discussion
         1. A member commented that the reference in the resolution column should include the revision number. 🡪 Updated r1.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11745, 11112, 11113 in doc 11-18/0734r1?**
         1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Ready for motion.
   6. **Ming Gan (Huawei Technologies) presented “LB230 CR on BSS Load Information in subclause 9.4.2,” based on the submission 11-18-0181-02.**
      1. Summary
         1. The submission 18/181 was revisited after update.
         2. The option 2 was removed since option 1 got more support.
      2. Discussion
         1. No further discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs; 12016, 13045 in doc 11-18/0181r2?** 
         1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. Ready for motion.
   7. **Abhishek Patil (Qualcomm) presented “CID 11001,” based on the submission 11-18-0364-03.**
      1. Summary
         1. Resolution for the CID 11001 on the random access procedure received from WG LB230 on 802.11ax draft 2.0 is proposed.
      2. Discussion
      3. **Straw Poll: Do you accept resolutions to CID 11001 in doc 11-18/0364r3?**
         1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Ready for motion.
   8. **Abhishek Patil (Qualcomm) presented “Resolution for various CIDs in clause 9,” based on the submission 11-18-0740-00.**
      1. Summary
         1. Resolutions for the following CIDs received from WG LB230 on IEEE 802.11ax draft 2.0 clause 9 are proposed.
            1. Relevant CIDs: 11513, 14346, 14344, 14345, 11163, 13756, 14093, 12860 (8 CIDs)
      2. Discussion
         1. Re: CIDs 11513 and 14346: A member commented that DCM should be allowed on ACK/BA/M-BA (the proposed spec is too restrictive). 🡪 DCM does not give much difference.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11513, 14346, 14344, 14345, 11163, 13756, 14093, 12860 in doc 11-18/0740r1?** 
         1. **Result:**
            1. **CID 11513 and 14346 are deferred.**
            2. **No objection to proposed resolution to the CIDs written in black.**
      4. Next Step
         1. More discussion on CID 11513 and 14346.
   9. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 BSS Operation BW,” based on the submission 11-18-0795-01.**
      1. Summary
         1. The submission 18/795r1 is revisited after update from r0.
         2. This is a bugfix, not CR.
      2. Discussion
         1. .A member confirmed that this is when VHT operation element is also in the frame.
         2. Another member commented to the note in the proposed text. 🡪 r2 is created.
      3. **Straw Poll: Do you accept the text changes in doc 1to1-18/0795r2?** 
         1. **Result: No objection.**
      4. Next Step:
         1. . Ready for motion.
   10. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 BSS Operation BW,” based on the submission 11-18-0797-01.**
       1. Summary
          1. This doc was considered during the ad hoc.
          2. The two CIDs were deferred.
       2. Discussion
          1. A member mentioned that the technical term and expression should be consistent with the other part of the draft.
       3. **Straw Poll: Do you accept resolutions to CIDs; 11281, 11290, in doc 11-18/0797r1?** 
          1. **Result: No objection.**
       4. Next Step:
          1. . This submission will be revisited later.
5. **AOB**
   1. None.
6. **Recess**
   1. TGax ad hoc meeting is in recess at 17:55 until PM3 (EVE) today.

**Tuesday, May 8th, 2018, 19:30 – 21:30 TGax MAC ad hoc**

1. **Meeting called to order @ 19:35, by Osama Aboul-Magd (Huawei Technologies).**
   1. Introduction of the front table.
2. **Agenda Setting**
   1. Proposed agenda for Tuesday PM3
      1. Call the meeting to order
      2. IPR Policy and procedure
      3. Comment Resolution
   2. Chair asked if there are any items to add to the agenda. 🡪 No response.
      1. The agenda was accepted.
3. **IPR Policies and Procedures**
   1. Chair reminded that we are still operating under the IEEE-SA and IEEE 802 policies and procedures.
4. **Comment Resolutions**
   1. **Jeongki Kim (LG Electronics) presented “CR for CID 12295,” based on the submission 11-18-0813-00.**
      1. Summary
         1. Resolution for the CID 12295 is proposed.
      2. Discussion
         1. .A member mentioned that the proposed scheme is dangerous.
         2. Another member commented that the EDCA is a fundermental feature of WLAN and he is not sure if the proposed scheme fits with the long range feature. This could degrade WLAN performance.
      3. Next Step:
         1. . Need more discussion.
   2. **Yongho Seok (MediaTek) presented “LB230 CR MAC Miscellaneous,” based on the submission 11-18-0726-00.**
      1. Summary
         1. Resolutions for the MAC Miscellaneous comments with following CIDs received from TGax LB230 are proposed.
            1. Relevant CIDs: 13669, 11139, 11140, 11152, 14094, 11501, 14326 (7 CIDs)
      2. Discussion
         1. .Re: CID 13669: Proposed change has already been incorporated into the draft.
         2. No further discussion.
      3. **Straw Poll: Do you accept the resolutions to CIDs; 13669, 11139, 11140, 11152, 14094, 11501, 14326 (7 CIDs) in doc 11-18/0726r0?**
         1. **Result: No objection to proposed resolutions.**
      4. Next Step
         1. . Ready for motion.
   3. **Yongho Seok (MediaTek) presented “LB230 CR Preamble Punctuing,” based on the submission 11-18-0604-01.**
      1. Summary
         1. Resolutions for the following comments on Preamble Puncturing received from TGax LB230 are proposed.
            1. Relevant CIDs: 11155, 13230, 13312 (3 CIDs).
      2. Discussion
         1. .A member is not happy with the proposed text for clause 27.4.4.3 in this document. Offline discussion suggested.
      3. **Straw Poll: Do you accept the resolutions to CIDs; 11155, 13230, 13312 (3 CIDs) in doc 11-18/0604r1?**
         1. **Result: Decided to keep r0.**
      4. Next Step:
         1. . Resolutions for CIDs 11155, 13230 and 13312 in 18/604r0 are ready for motion.
   4. **Yongho Seok (MediaTek) presented “LB230 CR TXVECTOR parameter BSS\_COLOR (27.11.4),” based on the submission 11-18-0456-00.**
      1. Summary
         1. Resolutions for the following comments on clause 27.11.4 (TXVECTOR parameter BSS\_COLOR) received from WG LB230 on IEEE 802.11ax D2.0 are proposed.
            1. Relevant CIDs: 11043, 12148, 11734, 13943, 11044, 13942, 13944, 12810 (8 CIDs).
      2. Discussion
         1. .People discussed the cases for Multi-BSSID related situations.
         2. A member commented that the CID 13944 is covered by another submission.
      3. Next Step
         1. Offline discussion suggested.
   5. **David Xun Yang (Huawei Technologies) presented “CIDs related to MU Cascading,” based on the submission 11-18-0707-00.**
      1. Summary
         1. Resolutions for the following 9 CIDs related to the MU Cascading are proposed.
            1. Relevant CIDs:

Clause 27.5.4: 12510, 13284, 13922, 12509, 13923, 11032, 13094, 11712.

Clause 9.4.2.237.2: 13238.

* + 1. Discussion
       1. .A member commented on the Capability bit: From normative behaviour point of view, the proposed spec is not correct. 🡪 Update to the text was suggested.
       2. A member asked for offline discussions.
    2. Next Step:
       1. . David to come back with an update for the proposal.
  1. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 Comment Resolution CID 11327,” based on the submission 11-18-0424-02.**
     1. Summary
        1. The document 18/424 was revisited after some update.
     2. Discussion
        1. .
     3. **Straw Poll: Do you accept the resolution to CID 11327 (1 CID) in doc 11-18/424r2?**
        1. **No objection to the proposed resolution.**
     4. Next Step:
        1. . Ready for motion.

1. **AOB**
   1. None.
2. **Recess**
   1. TGax ad hoc meeting is in recess at 21:21 until Wednesday AM1 (TGax full session).

# Wednesday, May 9th, 2018, 16:00 – 18:00 TGax MAC ad hoc

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 16:02 (Local Time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the secretary Yasuhiko Inoue (NTT).
2. **Agenda Setting**
   1. Proposed Agenda
      1. Call meeting to order
      2. Patent policy, etc.
      3. Announcements
      4. Presentations and Comment Resolution
      5. Adjourn
   2. Approval of the agenda
      1. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      2. The agenda was approved.
3. **Annoucement/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. Attendance!
4. **Comment Resolutions**
   1. **Yongho Seok (MediaTek) presented “LB230 CR TXVECTOR parameter BSS\_COLOR (27.11.4),” based on the submission 11-18-0456-01.**
      1. Summary
         1. The document 18/456 was revisited.
         2. Yongho explained the update.
      2. Discussion
         1. No further discussion.
      3. **Straw Poll: Do you accept resolutions to CIDs; 11043, 12148, 11734, 13943, 11044, 13942, 13944, 12810 (8 CIDs) in doc 11-18/0456r1?**
         1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. Alfred to come back with resolutions for CID 13510 and 11019.
   2. **Edward Au (Huawei Technologies) presented “,” based on the submission 11-18-0763-00.**
      1. Summary
         1. Resolutions for the following CIDs received from WG LB230 on 802.11ax draft 2.0 regarding Annex B PICS.
            1. Relevant CIDs: 12564, 12671, 13719, 13020, and 14317 (5 CIDs).
      2. Discussion
         1. A member suggested editorial correction. 🡪 r1 was created.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 12564, 12671, 13719, 13020, and 14317 in doc 11-18/0763r1?**
         * 1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. Ready for motion.
   3. **Edward Au (Huawei Technologies) presented “,” based on the submission 11-18-0781-00.**
      1. Summary
         1. Resolutions for CIDs received from WG LB230 on 802.11ax draft 2.0 regarding Annex C MIB.
            1. Relevant CIDs: 12995, 12260, 12882, 12648, 13965, and 12862 (6 CIDs)
      2. Discussion
         1. Re: CID 12660: People discussed the need for a MIB object - dot11ULPOWERHEAD. 🡪 It is necessary for the AP.
         2. A member discussed grammatical point of MIB description. The point is it has to be compilable.
         3. After some discussion, the document was updated to r1.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 12995, 12260, 12882, 12648, 13965, and 12862 in doc 11-18/0781r1?**
         * 1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. .
   4. **Zhou Lan (Broadcom Ltd.) presented “CR for CID 14331, 14332, 14347,” based on the submission 11-18-0522-00.**
      1. Summary
         1. Resolutions for the following comments received from WG LB230 on TGax draft 2.0 regarding the UL MU Disable bit in OM Control field are proposed.
            1. Relevant CIDs: 14331, 14332 and 14347 (3 CIDs).
      2. Discussion
         1. A member commented the behaviour after reception of this information should be emphasized.
         2. Another member commented on the contents of Table 9-18xxx. 🡪 Updated.
         3. Further modifications to the proposed text were suggested.
      3. Next Step
         1. Zhou to come back after some edits.
   5. **Jeongki Kim (LG Electronics) presented “,” based on the submission 11-18-0813-02.**
      1. Summary
         1. The document 18/813 was revisited making some changes incorporating the results of offline discussions.
      2. Discussion
         1. A member is still concerned by the proposed behaviour of AP.
         2. Some members commented that use of CAS control is not clear and need more clarification.
      3. Next Step
         1. Need more offline discussion.
   6. **Yusuke Tanaka (Sony) presented “Resolutions for CIDs related to GCR,” based on the submission 11-18-0155-02.**
      1. Summary
         1. The document 18/0155 was revisited after offline discussion.
         2. Basically no technical change was made to the document, and r2 is ready for SP.
      2. Discussion
         1. No further discussion.
      3. **Straw Poll: Do you agree to resolution to CID 11320 in doc 11-18/0155r2?** 
         * 1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Ready for motion.
   7. **Abhishek Patil (Qualcomm) presented “Comment resolutions for 27.7.3.3,” based on the submission 11-18-0664-01.**
      1. Summary
         1. Abhi came back with a new resolution for CID 12306 which was deferred from Monday PM2.
         2. The resolution was REJECTED.
      2. Discussion
         1. No further discussion.
      3. **Straw Poll: Do you agree to resolution to CID 12306 in doc 11-18/664r1?** 
         * 1. **Result: No objection to the proposed resolution.**
      4. Next Step
         1. Resolutions for all CIDs in 18/664r1 are ready for motion.
   8. **Abhishek Patil (Qualcomm) presented “Comment resolutions for 27.7.3.2,” based on the submission 11-18-0663-01.**
      1. Summary
         1. Resolutions for the following comments received from WG LB230 on 802.11ax draft 2.0 on subclause 27.7.3.2 (Rules for TWT scheduling AP) are proposed.
            1. Relevant CIDs: 11038, 11039, 11348, 11349, 11354, 11839, 11841, 11843, 11873, 11874, 11875, 12031, 12522, 13785, 13786, 13787, 13788 (17 CIDs)
      2. Discussion
         1. A member commented that the behaviour should be normative.
         2. No further discussion.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 11038, 11039, 11348, 11349, 11354, 11839, 11841, 11843, 11873, 11874, 11875, 12031, 12522, 13785, 13786, 13787, 13788 (17 CIDs) in doc 11-18/0663r2?**
         * 1. **Result: No objection.**
      4. Next Step
         1. Ready for motion.
   9. **Zhou Lan (Broadcom Ltd.) presented “CR for CID 14331, 14332, 14347,” based on the submission 11-18-0522-05.**
      1. Summary
         1. Zhou came back with updated document incorporating the comments received from the discussion.
      2. Discussion
         1. No further discussion.
      3. **Straw Poll: Do you agree to resolutions to CIDs; 14331, 14332, 14347 in doc 11-18/0522r5?**
         * 1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. Ready for motion.
   10. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 Comment Resolution CID 11327,” based on the submission 11-18-0424-03.**
       1. Summary
          1. Liwen came back with an updated document incorporating the results of discussions.
       2. Discussion
          1. A member commented that he is not sure whether we need to consider the condition in the proposed text.
          2. Another member suggested minor correction to the proposed text. 🡪 r4 is created.
   11. **Robert Stacy (Intel) presented “11ax D2.3 MAC Comment Resolution for CID 12376,” based on the submission 11-18-0944-00.**
       1. Summary
          1. Resolution for CID 12376 on subclause 9.3.1.23 (Trigger frame format) is proposed.
          2. The comment is about the signalling for 2x996 RU.
          3. It is proposed to add capability to signal not to be polled if the feature is not supported.
       2. Discussion
          1. No discussion.
       3. **Straw Poll: Do you agree to resolution to CID 12376 in doc 11-18/944r0?** 
          * 1. **Result: No objection to the proposed resolution.**
       4. Next Step
          1. Ready for motion.
   12. **Laurent Cariou (Intel) presented “OPS,” based on the submission 11-18-0768-01.**
       1. Summary
          1. Resolutions for CID 11019 and 12032 on OPS are proposed.
       2. Discussion
          1. Regarding the OPS Action frame, a member commented that the start time and end time is not clear. 🡪 It is from immediately after reception of the frame for the duration contained in that frame.
          2. Another member discussed the relation of the proposal with the FILS Discovery frame.
          3. There was a comment that the difference between this feature and Quiet Channel is not clear enough.
          4. Many people asked for more clarification.
       3. Next Step
          1. We can come back to this submission tomorrow if it is ready.
5. **AoB**

None

1. **TGax MAC ad hoc adjourned @ 18:00.**