IEEE P802.11  
Wireless LANs

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| TGax May 2018 Warsaw Meeting Minutes | | | | |
| Date: 2018-05-29 | | | | |
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Abstract

This document contains minutes of TGax May 2018Warsaw Meeting.

Minutes from ad hoc groups are contained in separate documents:

PHY ad hoc minutes:

MAC ad hoc minutes (includes MU topics):

<https://mentor.ieee.org/802.11/dcn/18/11-18-0920-00-00ax-tgax-mac-ad-hoc-may-2018-meeting-minutes.docx>

SR ad hoc minutes:

Rev. 0: Initial version.

**IEEE 802.11 Task Group AX,**

**The High Efficiency WLAN Standardization Task Group**

**May 2018 Warsaw Meeting**

**Warsaw Marriott Hotel, Warsaw, Poland**

**May 7th – 11th, 2018**

**Chair Osama Aboul-Magd (Huawei Technologies)**

**1st Vice-Chair Ron Porat (Broadcom Ltd.)**

**2nd Vice-Chair Alfred Asterjadhi (Qualcomm)**

**Secretary Yasuhiko Inoue (NTT Corporation)**

**Technical Editor Robert Stacey (Intel Corporation)**

# Monday, May 7th, 2018, 13:30 – 15:30, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 9:00 AM (local time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the TGax secretary, Yasuhiko Inoue (NTT).
   2. Agenda: 11-18-0635-04
2. **Announcement**
   1. Please announce your affiliation when you first address the group during a meeting slot.
   2. Do NOT forget the attendance! (http://newton.meeting.verilan.com/)
3. **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
4. **Agenda Items for the week**
   1. Approve meeting and telecon minutes since May 2018.
   2. Approve a new revision of the coexistence assurance document.
   3. Complete comment resolution on draft D2.0 and approve a motion to start a 30-day WG letter ballot.
   4. PAR Extension
   5. TG leadership and Vice Chairs election.
   6. Discuss TG PAR extension.
   7. Schedule TG telecons.
5. **General flow of the ad hoc meeting**
   1. Slide 13 of the agenda document contains the general flow of the meeting this week.
      1. TGax meeting schdule

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Monday** | | **Tuesday** | | **Wednesday** | | **Thursday** |
| AM1 |  | |  | | TGax (full) | | TGax (full) |
| AM2 |  | | TGax (ad hoc) | TGax (ad hoc) |  | |  |
| PM1 | TGax (full) | |  |  |  | | TGax (full) |
| PM2 |  | | TGax (ad hoc) | TGax (ad hoc) | TGax (ad hoc) | TGax (ad hoc) |  |
| PM3  (EVE) | TGax (ad hoc) | TGax (ad hoc) | TGax (ad hoc) | TGax (ad hoc) |  | |  |

1. **Call for submissions and ad hoc meeting scheduling**
   1. PHY submissions
      1. 11-18-0469, “CR-Packet-Extension,” Ron Porat (Broadcom Ltd.)
      2. 11-18-0477, “Punctured NDP,” Ron Porat (Broadcom Ltd.)
      3. 11-18-0725, “CR-PHY-Sounding-Part-1,” Lochan Verma (Qualcomm)
      4. 11-18-0753, “PHY CR on midamble TxEVM,” Hongyuan Zhang (Marvell Semiconductors)
      5. 11-18-0754, “CID14038 scrambler,” Hongyuan Zhang (Marvell Semiconductors)
      6. 11-18-0755, “HE Capabilities on HE MU single user full BW,” Hongyuan Zhang (Marvell Semiconductors)
      7. 11-18-0756, “Capabilities on midamble Tx,” Hongyuan Zhang (Marvell Semiconductors)
      8. 11-18-0765, “CR on HE PHY MIB attributes,” Edward Au (Huawei Technologies)
      9. 11-18-0779, “D2.0 PHY Comment Resolution - Part 3,” Youhan Kim (Qualcomm)
      10. 11-18-0799, “Comment resolution on CIDs 11727 and12102,” Jianhan Liu (MediaTek)
      11. 11-18-0803, “Spec text change on PHY padding,” Tianyu Wu (Samsung)
      12. 11-18-0806, “PHY Miscellaneous CIDs,” Bin Tian (Qualcomm)
      13. 11-18-0807, “D2.0 DFS Comment Resolution,” Youhan Kim (Qualcomm)
      14. 11-18-0815, “D2.0 DFS Comment Resolution,” Sigurd Schelstraete (Quantenna Communications)
      15. 11-18-0819, “comment-resolution-on-cids-for-28-3-part-3,” Jianhan Liu (MediaTek)
      16. 11-18-0823, “D2.0 CR for SAP and TRIGVECTOR,” Tianyu Wu (Samsug)
      17. 11-18-0868, “Spec. change on Receiver minimum input sensitivity on 1024-QAM for 20MHz bandwidth, Jianhan Liu (MediaTek)
   2. MAC submissions
      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 CID 13870,” Yongho Seok (MediaTek)
      23. 11-18-0603, “LB230 CR CID 13530 and 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 Ack related CRs,” George Cherian (Qualcomm)
      41. 11-18-0720, “Comment Resolution for 27.15.2,” 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. MU submissions
      1. 11-18-0388, “Comment resolution for CID 13084,” Stephane Baron (Canon Research)
      2. 11-18-0390, “CIDs related to Random Access for unassociated STAs,” Stephane Baron (Canon Research)
      3. 11-18-0445, “ACK non QoS data frame in TB PPDU,” Zhou Lan (Broadcom Ltd.)
      4. 11-18-0692, “Comment Resolution for Random Access,” Po-Kai Huang (Intel)
      5. 11-18-0694, “CIDs resolution for UORA procedure - part 2,” Stephane Baron (Canon Research)
      6. 11-18-0695, “CIDs resolution for UORA procedure - part 1,” Stephane Baron (Canon Research)
      7. 11-18-0707, “CIDs related to MU Cascading,” David Xun Yang (Huawei Technologies)
      8. 11-18-0724, “CIDs related to random access,” Abhishek Patil (Qualcomm)
      9. 11-18-0906, “DL MU MIMO signaling,” Guoqing Li (Apple)

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* 1. SR submissions
     1. 11-18-0026, “CR-SRG-and-SRP,” Matthew Fischer (Broadcom Ltd.)
     2. 11-18-0225, “CR-SRG-Management-CID-12044-12304,” Matthew Fischer (Broadcom Ltd.)
     3. 11-18-0456, “lb230-cr-txvector-parameter-bss-color,” Yongho Seok (MediaTek)
     4. 11-18-0579, “11ax D2.0 CR on SR and CCA,” Yuichi Morioka (Sony)
     5. 11-18-0617, “Dynamic OBSS\_PD level,” Graham Smith (SR Technologies)
     6. 11-18-0743, “CIDs related to BSS Color,” Abhishek Patil (Qualcomm)
  2. TG submissions
     1. 11-18-0902, “CID 12102: Remove DCM,” Sean Coffey (RealTek)
  3. Ad Hoc session planning
     1. MAC: all ad hoc slots
     2. PHY: 3
     3. MU and SR: one slot each

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|  | **Monday** | | **Tuesday** | | **Wednesday** | | **Thursday** |
| AM1 |  | |  | | TGax (full) | | TGax (full) |
| AM2 |  | | TGax (PHY) | TGax (MAC) |  | |  |
| PM1 | TGax (full) | |  |  |  | | TGax (full) |
| PM2 |  | | TGax (PHY) | TGax (MAC) | TGax (MU) | TGax (MAC) |  |
| PM3  (EVE) | TGax (SR) | TGax (MAC) | TGax (PHY) | TGax (MAC) |  | |  |

1. **The agenda for Monday PM1 (13:30 – 15:30)**
   1. Proposed Agenda
      1. Call meeting to order
      2. IEEE-SA IPR policy and Procedure
      3. Submissions and ad hoc groups time allocation.
      4. Summary from March 2018 meeting
      5. Timeline
      6. Editor Report – Robert Stacey
      7. TG motions
         1. Approve TG meeting and Telecon minutes since March 2018 meeting.
      8. TG Leadership
      9. Coexistence Assurance document
         1. Approve of Coexistence assurance document
      10. PAR Extension Request
      11. Presentations and Comment Resolution
      12. Recess
   2. Approval of the agenda
      1. Chair asked if there is any objection to proceed with this agenda. – No response.
      2. Agenda is approved.
2. **Summary from March 2018**
   1. Approved resolutions to over 800 technical CIDs.
   2. TG Draft D2.3 is now available in the member area.
   3. No changes to the TG timeline
3. **Timeline**
   1. May 2014: start of the TG
   2. Nov. 2014: First draft of the TG SFD was approved
   3. Jan. 2016: proposed TG draft
   4. May 2016: Draft D0.1 was approved and CC started
   5. November 2016: Draft 1.0 and WG letter ballot – Failed (57.77%)
      1. LB-225: opened Dec. 1st 2016 and closed January 8th 2017
   6. September 2017: Draft 2.0 and WG letter ballot – Failed (62.84%)
      1. LB-230: opened Oct 5th and closed Nov 4th, 2017
   7. May 2018: Draft 3.0 and WG letter Ballot. **🡨 We are here!**
   8. July 2018: MDR (Mandatory Document Review)
   9. February 2019: Formation of SB pool
   10. May 2019: Sponsor Ballot
   11. December 2019: RevCom
4. **Editor Report – Robert Stacey**
   1. Robert presented Editor’s Report.
      1. Comment resolution status as of April 18th.

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| --- | --- | --- | --- | --- | --- | --- |
| **Owning Ad-hoc** | **Unassigned** | **Assigned** | **Resolution Drafted** | **Approved** | **Duplicate** | **Grand Total** |
| **EDITOR** | **77** | **19** | **276** | **2053** | **1** | **2426** |
| A-MPDU |  |  | 1 |  |  | 1 |
| Annex G |  |  | 5 |  |  | 5 |
| Approved Edits in D2.1 |  |  |  | 468 |  | 468 |
| Approved Edits in D2.2 |  |  |  | 557 | 1 | 558 |
| Approved Edits in D2.3 |  |  |  | 597 |  | 597 |
| Approved No Change |  |  |  | 431 |  | 431 |
| Editorials | 36 | 2 |  |  |  | 38 |
| Editorials in D2.3 |  |  | 270 |  |  | 270 |
| MIB |  | 6 |  |  |  | 6 |
| Need Submission | 1 | 4 |  |  |  | 5 |
| PiCS |  | 5 |  |  |  | 5 |
| (blank) | 40 | 2 |  |  |  | 42 |
| **MAC** | **6** | **484** |  | **1** |  | **491** |
| Ack procedure |  | 116 |  |  |  | 116 |
| A-MPDU |  | 109 |  |  |  | 109 |
| Duration-based RTS/CTS |  | 4 |  |  |  | 4 |
| Editorials | 6 |  |  |  |  | 6 |
| Fragmentation |  | 19 |  |  |  | 19 |
| General and MAC services |  | 30 |  |  |  | 30 |
| HE BSS operation |  | 19 |  | 1 |  | 20 |
| HT Control |  | 18 |  |  |  | 18 |
| MAC General |  | 3 |  |  |  | 3 |
| NAV |  | 35 |  |  |  | 35 |
| Operating mode |  | 5 |  |  |  | 5 |
| Power management |  | 13 |  |  |  | 13 |
| Queue size and BSR |  | 31 |  |  |  | 31 |
| Reverse direction |  | 2 |  |  |  | 2 |
| TWT |  | 80 |  |  |  | 80 |
| **MU** |  | **151** |  | **1** |  | **152** |
| BQR operation |  | 9 |  |  |  | 9 |
| EDCA |  | 3 |  |  |  | 3 |
| MU operation |  | 68 |  | 1 |  | 69 |
| MU-RTS/CTS |  | 3 |  |  |  | 3 |
| NDP feedback |  | 10 |  |  |  | 10 |
| Sounding protocol |  | 25 |  |  |  | 25 |
| UORA |  | 33 |  |  |  | 33 |
| **SR** | **8** | **113** |  |  |  | **121** |
| Editorials | 8 |  |  |  |  | 8 |
| Spatial Reuse |  | 113 |  |  |  | 113 |
| **PHY** | **17** | **141** |  | **1** |  | **159** |
| DFS operation |  | 13 |  |  |  | 13 |
| Editorials | 15 |  |  |  |  | 15 |
| HE-SIG-A |  | 4 |  |  |  | 4 |
| HE-SIG-B |  | 6 |  |  |  | 6 |
| Mathematical description |  | 1 |  |  |  | 1 |
| MCS overview and tables |  | 5 |  |  |  | 5 |
| Need Submission | 2 |  |  |  |  | 2 |
| Packet extension |  | 9 |  |  |  | 9 |
| PHY Data field |  | 1 |  |  |  | 1 |
| PHY Intro |  | 19 |  | 1 |  | 20 |
| PHY OFDMA overview |  | 22 |  |  |  | 22 |
| PHY PPDU formats |  | 8 |  |  |  | 8 |
| PHY SAP |  | 39 |  |  |  | 39 |
| PHY tx/rx spec |  | 11 |  |  |  | 11 |
| TXTIME |  | 3 |  |  |  | 3 |
| **Grand Total** | **108** | **908** | **276** | **2056** | **1** | **3349** |

1. **TG motions**
   1. Approval of TG Minutes (March 2018 Meeting and Teleconferences Mintues)
      1. **Motion: Approve TGax minutes of meetings and teleconferences from March 2018 Interim meeting to today:** 
         * [**https://mentor.ieee.org/802.11/dcn/18/11-18-0518-00-00ax-tgax-march-2018-rosemont-meeting-minutes.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-0518-00-00ax-tgax-march-2018-rosemont-meeting-minutes.docx)
         * [**https://mentor.ieee.org/802.11/dcn/18/11-18-0683-00-00ax-minutes-of-tgax-teleconferences-april-2018.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-0683-00-00ax-minutes-of-tgax-teleconferences-april-2018.docx)
         * [**https://mentor.ieee.org/802.11/dcn/18/11-18-0594-00-00ax-march-2018-tgax-rosemont-phy-ad-hoc-minutes.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-0594-00-00ax-march-2018-tgax-rosemont-phy-ad-hoc-minutes.docx)
         * [**https://mentor.ieee.org/802.11/dcn/18/11-18-0566-00-00ax-mac-mu-ad-hoc-meeting-minutes-for-march-2018.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-0566-00-00ax-mac-mu-ad-hoc-meeting-minutes-for-march-2018.docx)
         * [**https://mentor.ieee.org/802.11/dcn/18/11-18-0462-00-00ax-tgax-march-2018-ad-hoc-meeting-minutes-mac-mu-sr.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-0462-00-00ax-tgax-march-2018-ad-hoc-meeting-minutes-mac-mu-sr.docx)
      2. **Moved by Stuart Kerry, Seconded by Kome Oteri**
      3. **Discussion – No discussion.**
      4. **Result: Y/N/A = 39/0/2, motion passes.**
2. **TG Leadership Election**
   1. **Task Group Chair**
      1. The TG Chair shall be appointed by the WG Chair and confirmed by a WG majority approval. The TG Chair is re-affirmed every 2 years: one session after the WG Chair is elected.
   2. **Task Group Vice-Chair**
      1. TG Vice-Chair is elected by a TG majority approval and confirmed by a WG majority approval.  The TG Vice-Chair is reaffirmed every 2 years; one session after the WG Chair is elected.
   3. **Task Group Secretary**
      1. The TG Secretary shall be appointed by the TG Chair and confirmed by a TG motion that is approved with a minimum 50% majority. The TG Secretary is re-affirmed every 2 years; one session after the WG Chair is elected.
   4. **Task Group Technical Editor**
      1. The TG Technical Editor shall be appointed by the TG Chair and confirmed by a TG majority approval.

(no requirement to re-affirm the editor)

1. **Task Group Vice-Chair Election**
   1. Nominations
      1. Simone Merlin (Qualcomm)
      2. Ron Porat (Broadcom Ltd.)
   2. Any other norminee? 🡪 Deferred until Wednesday
2. **Coexistence Assurance document**
   1. Eldad Perahia (HPE-Aruba) kindly updated the CA document and presented it during a TGax teleconference.
      1. CA document: <https://mentor.ieee.org/802.11/dcn/16/11-16-1348-03-00ax-coexistence-assurance.docx>
      2. Discussion
         1. There was a discussion in 802.18 regarding the 6 GHz frequency band. Some people (basically the UWB people) are not happy with opening this band.
      3. **Motion: Move to Adopt 11-16/1348r3 as the coexistence assurance document for 802.11ax amendment.**
         1. **Moved by Bin Tian, Seconded by Laurent Cariou**
         2. **Discussion – No discussion.**
         3. **Result: Y/N/A = 35/0/7, motion passes.**
3. **PAR Extension Request**
   1. The current PAR expires on December 2018.
   2. 2-year extension is requested.
   3. **Motion: Believing that the PAR extension contained in the document referenced below meets IEEE-SA guidelines,**

**Request that the PAR extension contained in** [**https://mentor.ieee.org/802.11/dcn/18/11-18-0870-00-00ax-tgax-par-extension-request.docx**](https://mentor.ieee.org/802.11/dcn/18/11-18-0870-00-00ax-tgax-par-extension-request.docx) **be posted to the IEEE 802 Executive Committee (EC) agenda for WG 802 preview and EC approval to submit to NesCom.**

* + 1. **Moved by Stuart Kerry, Seconded by Al Petrick.**
    2. **Discussion – No discussion.**
    3. **Result: Y/N/A = 38/0/0, motin passes.**

1. **Comment Resolutions**
   1. **Guoqing Li (Apple) presented “Comment resolutions for section 4, 5 and 27.1,” based on the submission 11-18-0705-01.**
      1. Summary
         1. Resolutions for the following comments received from WG LB230 on TGax draft 2.0 regarding clause 4, 5 27.1 are proposed.
            1. Relevant CIDs: 12119, 12120, 12121, 11959, 11964, 12312, 12611, 11958, 12974, 13692, 13803, 12282, 12348, 11107, 11957, 11108, 11785, 11956, 12349, 12975, 11264, 13804, 13805, 12350, 11370, 12978, 11263, 12124, 11071, 11788 (30 CIDs).
      2. Discussion
         1. . CID 11964: A member disagrees with the reason for rejecting this comment since some definitions actually include it.
         2. People discussed the HE featrures for the mesh STA/mesh points.
      3. **Straw Poll: Do you accept resolutions to CIDs; 12119, 12120, 12121, 11959, 11964, 12312, 12611, 11958, 12974, 13692, 13803, 12282, 12348, 11107, 11957, 11108, 11785, 11956, 12349, 12975, 11264, 13804, 13805, 12350, 11370, 12978, 11263, 12124, 11071, 11788. in doc 11-18/0705r1?**
         1. **Remark: CIDs 12119 and 11964 are deferred.**
         2. **Result: No objection to the resolutions of the other CIDs.**
      4. Next Step
         1. Guoqing to come back with updated resolutions for CIDs 12119 and 11964.
   2. **Sean Coffey (RealTek) presented “CID 12102: Remove DCM,” based on the submission 11-18-0902-00.**
      1. Summary
         1. CID 12102 proposes deleting DCM and all references to it in the draft.
         2. The proposed resolution in doc. IEEE 802.11-18/0799r0 does not adequately address the comment.
         3. The resolution proposed in CID 12102 should be accepted.
      2. Discussion
         1. A member disagrees with this proposal since DCM can compensate the Tx PWR for nawwor band RUs.
         2. Another member mentioned that the narrow band interference is there.
         3. A member mentioned that the commenter of CID 12102 is concerned by the broadness of the draft. Other part can be considered for removal.
         4. A member expressed his opinion that we had made decision during the comment resolution process. We have to respect the result that this feature is agreed by the people.
         5. Another member commented that our PAR refers to the robustness and reliability in the long range/outdoor environment. DCM is suitable for this purpose.
      3. **Motion: Move to accept the commenter’s proposed resolution to CID 12102: Delete DCM and all references to it in the draft**
         1. **Moved by Sean Coffey, Seconded by Guido R. Hiertz**
         2. **Discussion – No discussion**
         3. **Result: Y/N/A = 3/20/13, motion fails.**
2. **AOB**
   1. None.
3. **Recess**
   1. TGax is in recess at 15:30.
   2. There will be ad hoc sessions this evening.
      1. SR ad hoc: Ballroom ABCD
      2. MAC ad hoc: Baltic I

# Monday, May 7th, 2018, 19:30 – 21:30, TGax ad hoc sessions

* SR ad hoc: Ballroom ABCD
  + Agenda: 11-18-0912
* MAC ad hoc: Baltic I
  + Agenda: 11-18-0914

# Tuesday, May 8th, 2018, 10:30 – 12:30, TGax ad hoc sessions

* PHY ad hoc: Ballroom ABCD
  + Agenda: 11-18-0800
* MAC ad hoc: Baltic I
  + Agenda: 11-18-0914

# Tuesday, May 8th, 2018, 16:00 – 18:00, TGax ad hoc sessions

* PHY ad hoc: Ballroom ABCD
  + Agenda: 11-18-0800
* MAC ad hoc: Baltic I
  + Agenda: 11-18-0914

# Tuesday, May 8th, 2018, 19:30 – 21:30, TGax ad hoc sessions

* PHY ad hoc: Ballroom ABCD
  + Agenda: 11-18-0800
* MAC ad hoc: Baltic I
  + Agenda: 11-18-0914

# Wednesday, May 9th, 2018, 8:00 – 10:00, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 08:00 (Local Time).**
   1. Introduction of the chairperson Osama Aboul-Magd (Huawei Technologies) and the secretary Yasuhiko Inoue (NTT).
2. **Announcement/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.
3. **Agenda Setting**
   1. Proposed Agenda
      1. Call meeting to order
      2. IEEE-SA IPR Policies and Procedures.
      3. Agenda Setting
      4. Progress from the ad hoc groups
      5. Vice Chair Elections
      6. Presentations and Comment Resolution
         1. 11-18/0934
         2. 11-18/0946
         3. 11-18/0906
         4. 11-18/0522
      7. Recess
   2. Approval of the agenda
      1. Chair asked if there is any objection to approve the agenda. 🡪 No objection.
      2. The agenda for Wednesday AM1 is approved.
4. **Progress Review**
   1. PHY ad hoc: Completed its work.
   2. MAC ad hoc: way half.
   3. MU ad hoc: first meeting planned for this afternoon. Most of the submission is covered in the MAC ad hoc.
   4. SR ad hoc: Completed its work.
5. **Vice Chair Elections**
   1. Nominees
      1. Ron Porat
      2. Alfred Asterjadhi
      3. Nomination is closed.
   2. **Motins**
      1. **First Vice Chair Motion:**

**Move to confirm Ron Porat as the first TGax Vice Chair**

* + - 1. **Move: Robert Stacey Second: Guoqing Li**
      2. **Result: Y/N/A = 35/0/0, motion passes.**
    1. **Second Vice Chair Motion:**

**Move to confirm Alfred Asterjadhi as the second TGax Vice Chair**

* + - 1. **Move: Robert Stacey Second: Abhishek Patil**
      2. **Result: Y/N/A = 35/0/0, motion passes.**

1. **Comment Resolutions**
   1. **Youhan Kim (Qualcomm) presented “D2.0 PHY Comment Resolution – Part 4,” based on the submission 11-18-0934-00.**
      1. Summary
         1. Resolutions for the following comments received from WG LB230 on 802.11ax D2.0 are proposed.
            1. Relevant CIDs: 11418, 12796, 12580, 13764, 13428, 13952, 14159 (7 CIDs).
      2. Discussion
         1. A member suggested editorial changes. 🡪 The document is updated (r1).
      3. **Straw Poll: Do you accept resolutions to CIDs; 11418, 12796, 12580, 13764, 13428, 13952, 14159 in doc 11-18/0934r1?**
         * 1. **Result: No objection to the proposed resolutions.**
      4. Next Step
         1. Ready for motion.
   2. **Robert Stacey (Intel) presented “No Acition frame in multi-TID A-MPDU,” based on the submission 11-18-0946-00.**
      1. Summary
         * 1. Proposed to limit “multi-TID” to QoS Data frames (exclude Action frames).
      2. Discussion
         1. A member commented that the subclause 9.3.1.7 also needs to be changed.
         2. Another member mentioned that Simplification is good.
         3. There was a comment that the proposed changes are not enough.
         4. A participant identified several issues and requested deferral.
      3. **Straw Poll: Do you accept text changes in doc 11-18/0946r0?**
         1. **Result: Y/N/A = 9/7/14, straw poll does not achieve > 75% requirement**
   3. **Guoqing Li (Apple) presented “DL MU MIMO Preference Indiation,” based on the submission 11-18-0906-06.**
      1. Summary
         1. Proposed to define an indication that a non-AP STA can use to suggest that the AP re-sound the channel to facilate AP’s DL MU MIMO operation.
      2. Discussion
         1. A member mentioned that this is a good idea. There was on suggestion on the meaning the the field.
         2. Another member asked for a rquestion of how often the OM field is sent. 🡪 There is not specific requirement. He also commented the effectiveness of this information.
         3. There was a comment this function is effective when a STA is moving.
         4. There was a request to change the length of the OM Control field. 🡪 It needs a separate discussion.
      3. **Straw Poll: Do you accept text changes in doc 11-18/0906r7?**
         1. **Result: Y/N/A = 23/10/9, straw poll does not achieve > 75% requirement**
   4. **Zhou Lan (Broadcom Ltd.) presented “CR for CID 14331, 14332, 14347,” based on the submission 11-18-0522-01.**
      1. Summary
         1. Resolutions for the following comments on 802.11ax D2.0 are proposed.
            1. Relevant CIDs: 14331, 14332, 14347 (3 CIDs).
         2. The comments relate to the UL MU Disable bit in the OM Control field.
      2. Discussion
         1. A member discussed the requirements on the AP side. 🡪 The AP is required to consider the setting of related information to trigger the uplink data.
         2. A member suggested the nomative behaviour should be in an appropriate place.
         3. Another member asked for clarification for the cases other than data such as BSRP.
      3. **Straw Poll: Do you accept to add UL MU data disable bit in the OM Control field?**
         1. **Result: No objection.**
2. **AoB**
3. **Recess @ 10:00 AM.**

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

* MAC ad hoc: Baltic I
  + Agenda: 11-18-0914

# Thursday, May 10th, 2018, 8:00 – 10:00, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 08:00 (Local Time).**
   1. Introduction of the TG leadership.
2. **Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and IEEE 802.11 Policy and Procedure.
   2. Attendance!
3. **Agenda Setting**
   1. Proposed Agenda for Thursday AM1 and PM1
      1. Call meeting to order
      2. IEEE-SA IPR Policies and Procedures.
      3. Set agenda
      4. Motions
      5. Submissions and Motions
      6. WG LB Motion – hard start at 3:10 pm
      7. Ad Hoc meeting – not needed
      8. Teleconferences
      9. 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.
4. **Motions**
   1. PHY Motions.
      1. **PHY Motion #206: Move to accept the spec. text change in the document 802.11-18/0756r1.**
         1. **Moved by Robert Stacey, Seconded by Ron Porat.**
         2. **Discussion - No discussion.**
         3. **Result: The motion was accepted with no objection.**
      2. **PHY Motion #207 Move to accept the spec. text change in the document 802.11-18/0803r1.**
         1. **Moved by Alfred Asterjadhi, Seconded by Ron Porat.**
         2. **Discussion – No discussion.**
         3. **Result: The motion was accepted with no objection.**
      3. **PHY Motion #208 Move to accept the spec. text change in the document 802.11-18/0868r0.**
         1. **Moved by James Yee, Seconded by Ron Porat.**
         2. **Discussion – No discussion.**
         3. **Result: The motion was accepted with no objection.**
   2. MAC Motions.
      1. **MAC Motion #113: Move to accept the spec. text change in the document 802.11-18/0795r2.**
         1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
         2. **Discussion - No discussion.**
         3. **Result: The motion was accepted with no objection.**
      2. **MAC Motion #114: Move to accept the spec. text change in the document 802.11-18/0368r7.**
         1. **Moved by Abhishek Patil, Seconded by Robert Stacey.**
         2. **Discussion - No discussion.**
         3. **Result: The motion was accepted with no objection.**
      3. **MAC Motion #115: Move to accept the text change in the doc. 11-18/0906r7.**
         1. **Moved by Guoqing Li, Seconded by Abhishek Patil.**
         2. **Discussion - No discussion.**
         3. **Result: The motion was accepted with no objection.**
   3. CR Motions.
      1. **CR Motion #579 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0725r1.**

**CIDs: 11444, 12066, 12762, 12763, 12766, 12780, 12786, 12787, 12812, 12813, 14007, 12848, 13969, 13987, 13996, 13998, 14001, 14004, 14008**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #580 (PHY): Move to accept the comment resolutions for the following two CIDs in the document 802.11-18/0753r0.**

**CIDs: 11897, 14320**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #581 (PHY): Move to accept the comment resolution for the following CID in the document 802.11-18/0754r0.**

**CIDs: 14038**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #582 (PHY): Move to accept the comment resolution for the following CID in the document 802.11-18/0755r1.**

**CIDs: 12559**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #583 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0779r3.**

**CIDs: 11722, 12490, 11435, 14056, 12558, 13631, 14315, 13434, 14059, 14060, 13440, 14161, 14162, 14163, 13633, 13377, 12561, 12872, 12590, 14196, 12051, 12876, 12687, 13613, 13614**

* + - 1. **Moved by Youhan Kim, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #584 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0799r0.**

**CIDs: 11727, 12102**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #585 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0815r1.**

**CIDs: 14075, 14079, 14083**

* + - 1. **Moved by Sigurd Schelstraete, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #586 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0807r1.**

**CIDs: 13869, 12999, 11311, 13914, 13912, 13913, 11098, 13829, 13915, 13917, 13951**

* + - 1. **Moved by Youhan Kim, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #587 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0771r1.**

**CIDs: 11212, 11224, 11226, 11724, 11726, 11962, 12637, 12688, 12724, 12725, 12726, 13312, 13641, 13772, 14052**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #588 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0819r1.**

**CIDs: 13017, 12104, 12105, 12014, 12106**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #589 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0936r0.**

**CIDs: 14078**

* + - 1. **Moved by Sigurd Schelstraete, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #590 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0937r0.**

**CIDs: 11895, 13458, 13459, 13463**

* + - 1. **Moved by Yang Zhang, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #591 (PHY): Move to accept the comment resolutions for the following CID in the document 802.11-18/0935r0.**

**CIDs: 13974**

* + - 1. **Moved by Youhan Kim, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #592 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0806r0.**

**CIDs: 11893, 13618, 13619, 13620, 13621**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #593 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0765r2.**

**CIDs: 13384, 13386, 13387, 13388, 13385, 13383, 13390, 13389**

* + - 1. **Moved by Bin Tian, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #594 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0904r2.**

**CIDs: 13616, 14316**

* + - 1. **Moved by Yujin Noh, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #595 (PHY): Move to accept the comment resolutions for the following CIDs in the document 802.11-18/0823r3.**

**CIDs: 13807, 13808, 13809, 11909, 11266, 11267, 11270, 11218, 12337, 12154, 12207, 12338, 13230, 13229, 11271, 13810, 11422, 13571, 13572, 11442, 14040, 11219, 12053, 14041, 14042, 12054, 14043, 13382**

* + - 1. **Moved by Tianyu Wu, Seconded by Ron Porat.**
      2. **Discussion - No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #596 (PHY): Move to accept resolutions to CIDs; 11418, 12796, 12580, 13764, 13428, 13952, 14159 in doc 11-18/0934r1.**
       1. **Moved by Youhan Kim, Seconded by Ron Porat.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    2. **CR Motion #597 (MAC): Move to accept resolutions to CIDs; 12442, 12444, 12638 in doc 11-18/0792r1.**
       1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    3. **CR Motion #598 (MAC): Move to accept resolutions to CIDs; 11338, 11343, 11377, 11993, 12281, 12317, 13778, 13293, 13294, 13779, 12045, 11840, 11035 (13 CIDs) in doc 11-18/0044r2.**
       1. **Moved by George Cherian, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    4. **CR Motion #599 (MAC): Move to accept resolutions to CIDs; 14239, 14240, 13670, 12939, 12837 (5 CIDs) in doc 11-18/0684r2.**
       1. **Moved by George Cherian, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    5. **CR Motion #600 (MAC): Move to accept resolutions to CIDs; 12798, 12938, 13105, 13115 (4 CIDs) in doc 11-18/0685r0.**
       1. **Moved by George Cherian, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    6. **CR Motion #601 (MAC): Move to accept resolutions to CIDs; 13899 11677 12474 13904 13900 12476 13901 12475 13903 12477 13249 11259 11084 13902 13905 13906 12463 (17 CIDs) in doc 11-18/0764r1.**
       1. **Moved by Ming Gan, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    7. **CR Motion #602 (MAC): Move to accept resolutions to CIDs; 11129, 11255, 11328, 11329, 11502, 12815, 12816, 13661, 14327 in doc 11-18/0425r4.**
       1. **Moved by Ming Gan, Seconded by Abhishek Patil.**
       2. **Discussion** 
          1. **A participant requested a time for review.**
          2. **Motin was conducted after the review.**
       3. **Result: The motion was accepted with no objection.**
    8. **CR Motion #603 (MAC): Move to accept resolutions to CIDs; 11014, 12020, 11021, 11022, 11859, 12278, 12703, 12861, 13001 in doc 11-18/0793r1.**
       1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    9. **CR Motion #604 (MAC): Move to accept resolutions to CIDs; 11314, 12883 in doc 11-18/0794r1.**
       1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
       2. **Discussion - No discussion.**
       3. **Result: The motion was accepted with no objection.**
    10. **CR Motion #605 (MAC): Move to accept resolutions to CIDs; 11162, 12340, 14143, 12206, 11969, 12356, 13534, 12857, 12644, 13137, 13138, 13872, 12437, 13185, 12439, 12440, 11148 (17 CIDs) in doc 11-18/0627r1.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    11. **CR Motion #606 (MAC): Move to accept resolutions to CIDs; 11128, 14127 in doc 11-18/0743r2.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    12. **CR Motion #607 (MAC): Move to accept resolution to CID 13078 in doc 11-18/0744r1.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    13. **CR Motion #608 (MAC): Move to accept resolutions to CIDs; 11347, 11037, 13781, 13782 in doc 11-18/0739r1.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    14. **CR Motion #609 (MAC): Move to accept resolutions to CIDs 11713 and 13925 in doc 11-18/0742r3.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    15. **CR Motion #610 (MAC): Move to accept resolutions to CIDs; 11353, 11830, 12432, 12421 (4 CIDs) in doc 11-18/0660r1.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    16. **CR Motion #611 (MAC): Move to accept resolutions to CIDs; 11167, 11340, 11341, 11342, 11344, 11345, 11346, 11838, 11925, 11994, 11995, 12029, 12030, 12090, 12091, 12307, 12308, 12315, 12517, 12518, 12519, 12520, 12521 (23 CIDs) in doc 11-18/0661r2.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    17. **CR Motion #612 (MAC): Move to accept resolutions to CIDs; 13940, 13939, 11181, 13941 (4 CIDs) in doc 11-18/0628r1.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    18. **CR Motion #613 (MAC): Move to accept resolutions to CIDs; 13296, 11042, 13795, 12799, 12048 (5 CIDs) in doc 11-18/0629r1.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    19. **CR Motion #614 (MAC): Move to accept resolutions to CIDs; 11434, 13309, 13310, 14199, 13405, 12843, 13763, 14200 (8 CIDs) in doc 11-18/0630r0.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    20. **CR Motion #615 (MAC): Move to accept resolutions to CIDs; : 11155, 13230, 13312 (3 CIDs) in doc 11-18/0604r0.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    21. **CR Motion #616 (MAC): Move to accept resolutions to CIDs; 12742, 12103, 11097, 12642, 11309, 11310, 12503, 12500, 11711, 13746, 12055, 12056, 13008, 12057, 11101, 12790, 12058, 11103, 11157, 13145 in doc 11-18/0741r3.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    22. **CR Motion #617 (MAC): Move to accept resolutions to CIDs; 13133, 11069, 11070, 14262, 12177, 12293, 12942, 12943 in doc 11-18/0688r0.**
        1. **Moved by Robert Stacey, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    23. **CR Motion #618 (MAC): Move to accept resolutions to CIDs; 11038, 11040, 11872, 13783, 13784, 13789, 11848 (7 CIDs) in doc 11-18/0662r1.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    24. **CR Motion #619 (MAC): Move to accept resolutions to CIDs 13530 and 14183 in doc 11-18/0603r0.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion - No discussion.**
        3. **Result: The motion was accepted with no objection.**
    25. **CR Motion #620 (MAC): Move to accept resolutions to CIDs; 11279, 12926, 12932, 11280, 11281, 13728, 12927, 12928, 13295, 13729, 11284, 11285, 13727, 11287, 11288, 11289, 13680, 11290, 11291, 11292, 11294 in doc 11-18/0797r3.**
        1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
        2. **Discussion**
           1. A member commented that the reference in the resolution column is wrong. Liwen updated the document before the vote.
        3. **Result: The motion was accepted with no objection.**
    26. **CR Motion #621 (MAC): Move to accept resolutions to CID; 12994 in doc 11-18/0767r2.**
        1. **Moved by Laurent Cariou, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    27. **CR Motion #622 (MAC): Move to accept resolutions to CID; 11297, 12930. 11299, 11300, 12933, 12934, 12935, 12936, 13732, 13745, 13938 in doc 11-18/0796r2.**
        1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    28. **CR Motion #623 (MAC): Move to accept resolutions to CID; 13096, 13098, 13652, 13762, 14138, 14139, 14140, 14142, 14209, 14211 in doc 11-18/0694r3.**
        1. **Moved by Patrice Nezou, Seconded by Abhishek Patil.**
        2. **Discussion**
           1. References in the resolution column were updated before the vote.
        3. **Result: The motion was accepted with no objection.**
    29. **CR Motion #624 (MAC): Move to accept resolutions to CIDs; 13400, 13653, 13761, 13095 in doc 11-18/0695r4.**
        1. **Moved by Stephane Baron, Seconded by Abhishek Patil.**
        2. **Discussion**
           1. References in the resolution column were updated before the vote.
        3. **Result: The motion was accepted with no objection.**
    30. **CR Motion #625 (MAC): Move to accept resolutions to CIDs; 11844, 11846, 11847, 12184, 12238, 12523, 12524, 12525, 12526, 12527, 13790, 12306 (12 CIDs) in doc 11-18/0664r1.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    31. **CR Motion #626 (MAC): Move to accept resolutions to CIDs; 12016, 13045 in doc 11-18/0181r2.**
        1. **Moved by Ming Gan, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    32. **CR Motion #627 (MAC): Move to 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 11-18/0890r3.**
        1. **Moved by Tomoko Adachi, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    33. **CR Motion #628 (MAC):** **Move to accept resolutions to CIDs 11745, 11112, 11113**

**in doc 11-18/0734r1.**

* + - 1. **Moved by Tomoko Adachi, Seconded by Abhishek Patil.**
      2. **Discussion – No discussion.**
      3. **Result: The motion was accepted with no objection.**
    1. **CR Motion #629 (MAC):** **Move to accept the resolution to CID 12795 in doc 11-18/0428r0.**
       1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    2. **CR Motion #630 (MAC):** **Move to accept resolutions to CIDs 12218, 13835 in doc 11-18/0427r2.**
       1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    3. **CR Motion #631 (MAC):** **Move to accept resolutions to CID 11327 in doc 11-18/0424r4.**
       1. **Moved by Liwen Chu, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    4. **CR Motion #632 (MAC):** **Move to accept the resolution to CID 12376 in doc 11-18/0944r0.**
       1. **Moved by Robert Stacey, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    5. **CR Motion #633 (MAC):** **Move to accept resolutions to CIDs 14331, 14332, 14347 in doc 11-18/0522r5.**
       1. **Moved by Zhou Lan, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    6. **CR Motion #634 (MAC):** **Move to accept resolutions to CIDs; 12086, 12450 in doc 11-18/0665r1.**
       1. **Moved by Abhishek Patil, Seconded by George Cherian.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    7. **CR Motion #635 (MAC):** **Move to 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. **Moved by George Cherian, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    8. **CR Motion #636 (MAC):** **Move to 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, 12818, 13231, 13232, 13233, 13703, 13704, 13705, 13857, 13858, 13859, 14325 in doc 11-18/0724r1.**
       1. **Moved by George Cherian, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    9. **CR Motion #637 (MAC):** **Move to accept resolutions to CIDs; 11498, 14323, 13659, 11056 in doc 11-18/0733r3.**
       1. **Moved by Tomoko Adachi, Seconded by Abhishek Patil.**
       2. **Discussion – No discussion.**
       3. **Result: The motion was accepted with no objection.**
    10. **CR Motion #638 (MAC):** **Move to accept resolution to CID 11001 in doc 11-18/0364r3.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    11. **CR Motion #639 (MAC):** **Move to accept resolutions to CIDs; 14344, 14345, 11163, 13756, 14093, 12860 in doc 11-18/0740r1.**
        1. **Moved by Abhishek Patil, Seconded by George Cherian.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    12. **CR Motion #640 (MAC):** **Move to accept resolutions to CIDs; 13669, 11139, 11140, 11152, 14094, 11501, 14326 (7 CIDs) in doc 11-18/0726r0.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    13. **CR Motion #641 (SR):** **Move to accept resolutions to CIDs contained in the abstract sub-clause of doc 11-18/0026r10, and incorporate the changes contained in submission 11-18/0026r10 into the 802.11ax draft..**
        1. **Moved by Matthew Fischer, Seconded by Ron Porat.**
        2. **Discussion**
           1. Instruction to the editor in r9 was modified and the document became r10 before the vote.
        3. **Result: The motion was accepted with no objection.**
    14. **CR Motion #642 (MAC):** **Move to accept resolutions to CIDs 13134, 13135, 12389 in doc 11-18/0720r2.**
        1. **Moved by Guoqing Li, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    15. **CR Motion #643 (MAC):** **Move to accept resolutions to CIDs; 12120, 12121, 11959, 12312, 12611, 11958, 12974, 13692, 13803, 12282, 12348, 11107, 11957, 11108, 11785, 11956, 12349, 12975, 11264, 13804, 13805, 12350, 11370, 12978, 11263, 12124, 11071, 11788. in doc 11-18/0705r4.**
        1. **Moved by Guoqing Li, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    16. **CR Motion #644 (MAC):** **Move to accept resolutions to CIDs; 11043, 12148, 11734, 13943, 11044, 13942, 13944, 12810 (8 CIDs) in doc 11-18/0456r1.**
        1. **Moved by Yongho Seok, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    17. **CR Motion #645 (MAC):** **Move to accept resolutions to CIDs for CIDs 12564, 12671, 13719, 13020, and 14317 in doc 11-18/0763r1.**
        1. **Moved by Yasuhiko Inoue, Seconded by Lei Wang.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    18. **CR Motion #646 (MAC):** **Move to accept resolutions to CIDs 12995, 12260, 12882, 12648, 13965, and 12862 in doc 11-18/0781r2.**
        1. **Moved by Yasuhiko Inoue, Seconded by Ross Jian Yu.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    19. **CR Motion #647 (MAC):** **Move to accept 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. **Moved by Alfred Asterjadhi, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    20. **CR Motion #648:** **Move to approve the resolution to CIDs in comment group Editorial in D2.3 in doc 11-17/1682r10.**
        1. **Moved by Robert Stacey, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**
    21. **CR Motion #649:** **Move to accept resolution to CID 11320 in doc 11-18/0155r2.**
        1. **Moved by Yusuke Tanaka, Seconded by Abhishek Patil.**
        2. **Discussion – No discussion.**
        3. **Result: The motion was accepted with no objection.**

1. **Submission and Motion**
   1. **Laurent Cariou (Intel) presented “OPS,” based on the submission 11-18-0768-05.**
      1. Summary
         1. Resolutions for the following comments with proposed changes to the spec text related to Opportunisitic Power Save (OPS) are proposed.
            1. Relevant CIDs: 11019 and 12032.
      2. Discussion
         1. Laurent has made further updates on the some text related to the AP’s behaviour for clarification purpose.
      3. **CR Motion #650:** **Move to accept resolutions to CIDs 11019 and 12032 in doc 11-18/0768r5.**
         1. **Moved by Laurent Cariou, Seconded by Abhishek Patil.**
         2. **Discussion – No discussion.**
         3. **Result: The motion was accepted with no objection.**
   2. **Youhan Kim (Qualcomm) presented “Sounding Clarification,” based on the submission 11-18-0957-00.**
      1. Summary
         1. Further clarification on the HE sounding is proposed.
         2. With the proposed change, an HE AP may use an HE TB sounding sequence in which the HE NDPA has *N* STA Info fields, while the HE AP collects feedback from *M* (*M* <= *N*) HE beamformees using one or more BFRP Trigger frames.
      2. Discussion
         1. No discussion.
      3. **MAC Motion #116: Move to accept spec text change in the doc 11-18/0957r0.**
         1. **Moved by Youhan Kim, Seconded by Alfred Asterjadhi.**
         2. **Discussion - No discussion.**
         3. **Result: The motion was accepted with no objection.**
2. **AoB**
   1. 2 minutes left.
3. **Recess @ 9:59 until start of PM1 (13:30)**

# Thursday, May 10th, 2018, 13:30 – 15:30, TGax full session

1. **Meeting called to order by Osama Aboul-Magd (Huawei Technologies), the chairperson of TGax @ 13:30 (Local Time).**
   1. Introduction of the TG leadership.
2. **Reminder**
   1. Chair reminded that we are still operating under IEEE 802 and IEEE 802.11 Policy and Procedure.
   2. Attendance!
3. **Agenda Setting – as approved during AM1**
   1. Proposed Agenda for Thursday AM1 and PM1
      1. Call meeting to order
      2. IEEE-SA IPR Policies and Procedures.
      3. Set agenda
      4. Motions
      5. Submissions and Motions
      6. WG LB Motion – hard start at 3:10 pm
      7. Ad Hoc meeting – not needed
      8. Teleconferences
      9. Adjourn
4. **Submission and Motion**
   1. **James Yee (MediaTek) presented “Remaining Comment resolutions for section 4,” based on the submission 11-18-0959-00.**
      1. Summary
         1. Resolutions for the two CIDs, i.e. CID #12119 and #11964, are proposed.
         2. Basically, this is the description of an HE STA.
      2. Discussion
         1. A member is not sure whether this text is really necessary.
         2. Some people mentioned that the last sentence of the proposed text needs to be modified if we would like to show that the 802.11ax satisfies the PAR requirements.
         3. A participant suggested removal of spatial reuse feature from the proposed text.
         4. After discussion, the proposed text was updated and the r1 of this document was created.
      3. **CR Motion #651: Move to accept resolutions to CIDs 12119, 11964 in doc 11-18/0959r1.**
         1. **Moved by James Yee, Seconded by Youhan Kim.**
         2. **Discussion – No discussion.**
         3. **Result: The motion was accepted with no objection.**
   2. **Frank Hsu (MediaTek) presented “11ax D2.0 MAC Comment Resolution for Dynamic Fragmentation Coexistence,” based on the submission 11-18-0811-02.**
      1. Summary
         1. Resolution for the CID 12010 was updated and Frank has gone through the changes.
      2. Discussion
         1. A member commented that we can mix the fragmentation function with no additional complexity. He does not identify any benefit or efficiency improvement in the proposal.
      3. **CR Motion #652: Move to accept resolutions to CID 12010 in doc 11-18/0811r2.**
         1. **Moved by James Yee, Seconded by Yunbo Li.**
         2. **Discussion – No discussion.**
         3. **Result: Y/N/A = 4/9/11, motion fails.**
   3. **Jeongki Kim (LG Electronics) presented “CR for CID 12295,” based on the submission 11-18-0813-02.**
      1. Summary
         1. Resolution for the CID 12295 related to UL transmission behaviour.
         2. Jeongki presented the submission highlighting the changes.
      2. Discussion
         1. A member mentioned he identified some issues with the proposal. There will be so many parts that should be modified as well.
         2. Another member mentioned we have MU EDCA parameter set which basically has the same meaning with the proposal. Do not understand why we need this changes.
      3. **CR Motion #653: Move to accept resolutions to CID 12295 in doc 11-18/0813r2.**
         1. **Moved by Jeongki Kim, Seconded by Kiseon Ryu.**
         2. **Discussion – No discussion.**
         3. **Result: Y/N/A = 10/9/15, motion fails.**
   4. **David Xun Yang (Huawei Technologies) presented “CIDs related to MU Cascading,” based on the submission 11-18-0707-01.**
      1. Summary
         1. Resolutions for the following 9 CIDs related to MU Cascading received for TGax LB230 are proposed.
            1. Clause 27.5.4: 12510, 13284, 13922, 12509, 13923, 11032, 13094, 11712
            2. Clause 9.4.2.237.2: 13238
      2. Discussion
         1. A member proposed a further change to consider a frame carrying TRS Control field. 🡪 The document was updated to r2.
         2. People discussed the restriction on the AP transmitting a Trigger frame.
      3. **CR Motion #654: Move to accept resolutions to CIDs;**

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

**Clause 9.4.2.237.2: 13238 in doc 11-18/0707r2.**

* + - 1. **Moved by David Xun Yang, Seconded by George Cherian.**
      2. **Discussion – No discussion.**
      3. **Result: Accepted with no objection.**
  1. **Robert Stacey (Intel) presented “Proposed resolution for CIDs for 27-2-2,” based on the submission 11-18-0964-00.**
     1. Summary
        1. Resolutions for the following comments related to TGax D2.3 subclause 27.2.2 are proposed.
           1. Relevant CIDs: 11488, 11737, 11792, 14095, 12133, 12264, 12180, 12456, 12809, 12262, 12459, 11735, 12132.
     2. Discussion
        1. People suggested minor modifications to the proposed text.
        2. A member mentioned the use of partial AID and Partial BSS Color introduces ambiguity and suggested removal of some text. 🡪 The document was updated to r1.
     3. **CR Motion #655: Move to accept resolutions to CIDs 11488, 11737, 11792, 14095, 12133, 12264, 12180, 12456, 12262, 12459, 11735, 12132 in doc 11-18/0964r1.**
        1. **Moved by Robert Stacey, Seconded by Yongho Seok.**
        2. **Discussion – No discussion.**
        3. **Result: Accepted with no objection.**
  2. **Liwen Chu (Marvell Semiconductors) presented “11ax D2.0 Comment Resolution 9.7.3,” based on the submission 11-18-0426-05.**
     1. Summary
        1. Resolutions for the following comments received for 802.11ax D2.0 on subclause 9.7.3 are proposed..
           1. Relevant CIDs: 12718, 13079, 12915, 13088, 12619,12620, 12835, 12917, 11923, 11130, 12344, 12621, 12622, 12623, 12624, 12662, 12663, 12833, 12850, 12919, 12921, 12924, 12925, 13240, 13241, 13726, 13878, 11330, 11331, 11332, 11333, 11334, 12343, 12628, 12634, 12743, 12834, 13089, 11335, 12635, 12741, 11356, 11336
        2. Liwen explained the document highlighting the changes.
     2. Discussion
        1. (On Table 9-424 A-MPDU Contents): A member mentioned that putting all the behaviour in a table is bad idea.
        2. People also discussed the case for Action No Ack transmission.
     3. **CR Motion #656: Move to accept resolutions to CIDs 12718, 13079, 12915, 13088, 12619,12620, 12835, 12917, 11923, 11130, 12344, 12621, 12622, 12623, 12624, 12662, 12663, 12833, 12850, 12919, 12921, 12924, 12925, 13240, 13241, 13726, 13878, 11330, 11331, 11332, 11333, 11334, 12343, 12628, 12634, 12743, 12834, 13089, 11335, 12635, 12741, 11356, 11336 in doc 11-18/0426r6.**
        1. **Moved by Liwen Chu, Seconded by Alfred Asterjadhi.**
        2. **Discussion – No discussion.**
        3. **Result: Accepted with no objection.**
  3. **CR Motion #657:**

**Move to resolve CIDs that have no approved resolution as “Rejected” because of lack of submission or consensus.**

* + 1. **Moved by Robert Stacey, Seconded by Alfred Asterjadhi.**
    2. **Discussion – No discussion.**
    3. **Result: Accepted with no objection.**

1. **WG Letter Ballot Motion**
   1. **Motion**

* **Having approved changes to TGax draft D2.0, as defined in 11-17/1682r10 in addition to motions passed during May 2018 session.**
* **Instruct the editor to prepare TGax draft D3.0, and**
* **Approve a 30 day Working Group Technical Letter Ballot asking the question “Should TGax draft D3.0 be forwarded to Sponsor Ballot?”**
  + 1. **Moved by Robert Stacey, Seconded by Abhishek Patil.**
    2. **Discussion – No discussion.**
    3. **Result: Y/N/A = 35/0/0, motion passes.**

1. **Presentation**
   1. **Robert Stacey (Intel) presented “TGax Timeline,” based on the submission 11-18-0968-00.**
      1. Summary
         1. Robert reviewed current TGax timeline and events until raification of the 802.11ax amendment.
         2. It is critical for 802.11ax project to keep this timeline.
      2. Discussion
         1. There was a comment from a member that the start of the recirculation ballot in the official timeline should be changed to November 2018.
2. **Ad Hoc Meeting**
   1. No ad hoc meeting needed before the July 2018 session.
3. **Teleconference**
   1. No teleconference is planned for now.
   2. Chair will send 10 day notice if we schedule the call.
4. **AoB**
   1. No business to conduct.
5. **Adjourn**
   1. **TGax adjourned for the week@ 15:20 (Local Time)**