IEEE P802.11  
Wireless LANs

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| TGbn MAC Ad Hoc Jan 2025 Kobe Minutes | | | | |
| Date: 2025-21-05 | | | | |
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This document contains the minutes for the IEEE 802.11bn MAC Ad Hoc Kobe Meeting in January 2025

Abbreviation(s) used:

C: Comment

Q: Question

A: Answer

r0: initial version

r1: updated with all available poll results and fixed typos and formatting

# Minutes for the IEEE 802.11bn MAC Ad Hoc January 2025 Kobe Meeting

TGbn MAC Ad Hoc Chair chairing: Xiaofei Wang (Interdigital)

TGbn MAC Ad Hoc Chair serving as recording secretary: Srinivas Kandala (Samsung)

## Monday January 13, 2025, PM1

1. The chair called the meeting to order at 1:33 PM local (Japan) time.
   1. The chair introduced himself. For this session Jeongki Kim of Offino would be the chair as Xiaofei has been unavailable
   2. The secretary for the meeting is Srinivas Kandala
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r4.
   1. The chair reviews agenda
      1. The agenda is approved by unanimous consent by all attendees.
4. Straw Polls:
   1. ***SP1 – Gaius Yao Huang Wee – CRTWT (Deferred)***
      1. **SP:** Do you support allowing an AP to request a neighbour AP to share a portion of its TXOP obtained during an R-TWT SP?
         * The request is based on sending a TWT request, which contains the TWT element
         * The portion of TXOP is shared by sending an MU-RTS TXS Trigger frame

*Supporting docs: [*[*24/1457r0*](https://mentor.ieee.org/802.11/dcn/24/11-24-1457-00-00bn-r-twt-sharing.pptx)*,*[*23/2212r1*](https://mentor.ieee.org/802.11/dcn/23/11-23-2212-01-00bn-r-twt-protection-in-11bn.pptx)*]*

* + 1. Discussion
       - C: Is there an expectation to have this share in the every SP?
       - A: Yes
       - C: So, even if both the APs have the same periodicity, the traffic does not arrive at the same time. If for every SP, sending TXOP allocation blindly may not help. It may be better to harmonize with C-TDMA within R-TWT
       - A: Yes
       - C: That means we need a polling frame
       - A: Yes, but we can consider this but this is for setting the initial agreement
       - C: We need to discuss more.
       - A: Would like to hear more comments
       - C: If it is about CR-TWT, I have similar comment and we are working on C-TDMA that should address this use case
       - C: Could you remove the first bullet, since this is related to coordinated R-TWT. So, suggest to remove the first bullet, as we have not decided to use the C-TDMA element
       - A: Thanks for the comment. But we are trying to put it in the current framework. But I can defer the strawpoll
    2. **Strawpoll deferred**
  1. ***SP2 – Hongwon Lee – Coex ( No objections)***
     1. **SP:** Do you agree to include the following into the 11bn SFD?
        + A TXOP holder transmitting a BSRP Trigger frame as an ICF which is addressed to at least a UHR STA that enabled a dynamic unavailability operation mode, shall ensure that UL Length sets to a sufficient length for PPDU that contains a Multi-STA BA as an ICR including unavailability information

*Supporting docs: [24/1464r2]*

* + 1. Discussion
       - C: This is a follow up to earlier motion
       - C: There are two cases: one with Multi-STA BA and the second one with QoS-Null and Mult-STA
    2. **Modified SP text**:

Do you agree to include the following into the 11bn SFD?

* + - * An AP transmitting a a BSRP Trigger frame as an ICF which is addressed to at least a UHR non-AP STA that has enabled a dynamic unavailability operation mode, shall ensure that UL Length field is set to a sufficient length for PPDU that contains a Multi-STA BA as an ICR including unavailability information in addition to other baseline requirements.

*Supporting docs: [24/1464r2]*

* + - * C: Clarified that this is for Downlink
    1. **No objections to the Straw Poll**
  1. ***SP3 – Hongwon Lee – Coex (Deferred)***
     1. **SP:** Do you agree to include the following into the 11bn SFD?
        + When a non-AP STA intends to indicate unavailability in a BSRP Trigger frame as an initial control frame (ICF), the unavailability consists of:
          - Unavailability Target Start Time field that indicate the start time in TSF when the non-AP STA becomes unavailable and uses 9 bits with a granularity of 64us, and
          - Unavailability Duration field that indicates the time during which the non-AP STA is unavailable and uses 9 bits with a granularity of 64us

*Supporting docs: [24/1464r2]*

* + 1. Discussion
       - C: You are stating all the details as in earlier motions. Can you just cite that motion?
       - A: This is the follow-up of that motion.
       - C: Replace the bullets with the text in that motion
    2. **Modified SP text**:
    - Do you agree to include in the SFD
      * + CoEx unavailability information in the BSRP Trigger frame when used as an ICF to report CoEx unavailability information
        + CoEx unavailability information includes two parameters: Unavailability Target Start Time and Unavailability Duration (these fields are already defined)
    1. Discussion on the modified straw poll text
    - C: This behaviour could be used for unsolicited. So, the information is not really solicited, BSRP is just to send poll
    - C: What is the response frame to this trigger frame
    - A: The response could be Multi-STA BA, but will be covered by another SP
    - C: This is for unsolicited and can be cleared with a note
    - A: Yes, we can align with the Motion
    - C: More modifications made to the SP text, which are not agreed upon.
    1. **Straw Poll deferred**
  1. ***SP4 – Hongwon Lee – Coex*** ***(Deferred)***
     1. **SP:** Do you agree to include the following into the 11bn SFD?
     + When a STA intends to indicate unavailability in a BSRP Trigger frame as an initial control frame (ICF), the unavailability is indicated in a Special User Info field with an AID
     + The AID is TBD (but not 2007)

*Supporting docs: [24/1464r2]*

* + 1. **SP is dependent on SP3 and is deferred**
  1. ***SP5 – Hongwon Lee – Coex*** ***(Deferred)***
     1. **SP:** Do you agree to include the following into the 11bn SFD?
        + In response to BSRP Trigger frame transmitted by a non-AP STA, an AP transmits a Multi-STA BlockAck frame
          - Block Ack Starting Sequence Control subfield and Block Ack Bitmap subfield are not present if there is no any feedback information
          - Values of Ack Type and TID are TBD

*Supporting docs: [24/1464r2]*

* + 1. Discussion
       - C: More suggestions for the SP text;
    2. **Straw Poll is** **deferred**
  1. ***SunHee Baek – CR-TWT (81Y, 34N, 57A)***
     1. **SP:** Do you agree to add the following text to the TGbn SFD?
        + An AP that wants to request protection for its R-TWT schedule(s) via negotiations shall include the corresponding Broadcast TWT Parameter Set field(s) in a TBD individually addressed Management frame that it transmits to the other AP.

*Supporting list: [24/160, 23/1916, 23/355, 24/1346]*

* + 1. Discussion
       - C: How do you send the TWT Parameter set without the element?
       - A: It does not dependent on that (back and forth)
       - The author is asked if the SP is run and she said yes
       - C: Technically this SP may not be correct. You want to send some
       - C: Similar question> How to send the parameters is TBD. Is that the intention?
       - A: Yes
       - C: My question is the frame that is used, whether it is management or public action frame but just an individually addressed frame. In TBD frame? That is ok
    2. **Modified SP text** 
       - Do you agree to add the following text to the TGbn SFD?
       - An AP that requests protection for its R-TWT schedule(s) via negotiations shall include the corresponding Broadcast TWT Parameter Set(s) fields in a TBD individually addressed management frame that it transmits to the other AP.

*Supporting list: [24/160, 23/1916, 23/355, 24/1346]*

* + 1. SP was run.
       - A member asked for recorded count. Only the results are available but not the recorded count.
    2. **Vote Results: 81Y, 34N, 57A**

1. Prioritized submission presentation
   1. [24/2072](https://mentor.ieee.org/802.11/dcn/24/11-24-2072-00-00bn-nc-mlo-smd-architecture.pptx) NC MLO SMD Architecture Michael Montemurro
      1. Discussion
         * C: How does the authenticator interact with MAC-SAPs/
         * A: Once the non-AP is associated, it never changes. From .11 perspective, they will not change. MAC-SAPS are in MMC
         * C: Is it a MAC-SAP per SMD?
         * A: Yes
         * C: I think there should be one per MLD
         * C: Looking at the diagram, this is more centralized model for SMD. We are also looking at a more distributed manner. The MAC-SAPs are with respect to MLD. And it should support both models
         * A: Do not agree that it is cnetralized. The whole thing is transparent to the non-AP MLD and would not know. This is neither a distributed or centralized and will depend on the implementation
         * C; Similar point. From the figure there is a single point and I think this would be centralized
         * A: Suggest check AP implementation
2. Proposed Draft Text (PDT) presentations
   1. [24/2022r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2022-00-00bn-pdt-mac-bsr-enhancement.docx) PDT MAC BSR Enhancement Frank Hsu [SP]
      1. Walked through the document
      2. No discussion on the document
      3. Straw poll being run:
         * Straw Poll question: Do you agree to incorporate the proposed text changes for BSR enhancements in 11024/2022r2 to the latest TGbn draft
      4. **SP has unanimous support**
   2. [24/1961r4](https://mentor.ieee.org/802.11/dcn/24/11-24-1961-00-00bn-pdt-mac-c-tdma.docx) PDT-MAC-C-TDMA Sanket Kalamkar [SP]
      1. Presented the PDT on 12/16. No changes since then. Straw poll being run
         * Straw Poll question: Do you agree to include the Proposed Draft Text for Co-TDMA in 11-24/1961r4 in the latest TGbn draft?
      2. No discussion on the question
      3. **SP has unanimous support**
   3. [24/2007r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2007-00-00bn-pdt-mac-p-edca.docx) PDT-MAC-p-edca Dmitry Akhmetov [SP]
      1. Received only one request to replace “should” with “shall”. When the motion was being constructed, shold reflected the intention of the group
      2. No further discussion
      3. Straw poll being run
         * Straw Poll question: SP: Do you agree to incorporate the proposed text changes for P-EDCA in 11-24/2007r3 to the latest TGbn draft?
      4. **SP has unanimous support**
   4. [24/2069r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2069-00-00bn-pdt-mac-uhr-mac-capabilities-in-uhr-caps-ie.docx) PDT MAC UHR MAC Capabilities In UHR Caps IE Ming Gan
      1. Walked through the document. No discussion
      2. Straw poll being run
         * Straw Poll question: Do you agree to incorporate the proposed text changes for MAC UHR MAC capabilities in 11-24/2069r1 to the latest TGbn draft
      3. No discussion
      4. **SP has unanimous support**
3. Submissions – Roaming Part 2
   1. [24/1591](https://mentor.ieee.org/802.11/dcn/24/11-24-1591-00-00bn-thoughts-on-seamless-roaming-and-npca.pptx) Thoughts on Seamless Roaming and NPCA Ning Gao
      1. Q&A will be in next meeting
4. Meeting recessed at 3:33 PM local (Japan) time

## Tuesday January 14, 2025, AM2

1. The chair called the meeting to order at 10:30 Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary for the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r5.
   1. The chair reviews agenda
      1. The agenda is approved by unanimous consent.
4. Proposed Draft Text (PDT) presentations
   1. [24/1881r5](https://mentor.ieee.org/802.11/dcn/24/11-24-1881-05-00bn-pdt-mac-seamless-roaming.docx) PDT-MAC-Seamless-Roaming Duncan Ho [SP: 135/18/39]
      1. It is an r5 which is the clean version of r4. Author walked through the changes from r4
      2. Discussion:
         * C: The decision on which response frame is not made.
         * A: The TBD request frame and response frame to the current AP. The target may not be informed and it is not clear how it can be reached. However, there are some proposals just engage with Target MLD. But we will need additional discussions and agreements to add anything
         * C But the proposals are open, and this text appears to exclude the other proposal. This appears to be using the push model and perhaps not the best way to do it.
         * A: This comment has been made when it was presented last time
         * C: Add “at this stage” in preparation and execution sections (37.12.2 and 37.12.3)
         * A: Agreed. The author added
         * C: A commentor disagreed with the change and requested to use “in this procedure” instad
         * Original commenter accepted
         * Disagree with the first commenter. For consistency keep “current” for both frames and use “target” later as theyget defined
      3. SP is being run:
         * SP question: “Do you agree to incorporate the proposed text changes in 11-24/1881r7 to the latest TGbn draft?”
         * A recorded vote has been requested, which is in Appendix.
         * Result **135Y, 18N, 39A**
   2. [24/2016r1](https://mentor.ieee.org/802.11/dcn/24/11-24-2016-01-00bn-pdt-mac-power-save.docx) PDT MAC power save Liwen Chu [SP]
      1. Document r2 walked through
      2. Removed text related to “enhancing AP Power SAVE” – motions $49 and #161
      3. The main changes between the two revision is that for assoc request response and probe request response frame entries have been removed
      4. Discussion:
         * C: You already enable and disable frame, but you still have the UHR control field
         * A: Removed those frames they can be in a unified action frame
         * C: But you removed the unified action frame and this field does not have a place to put
         * C: You have two items, DPS support and assistance. Assistance does not have a motion
         * A; We have one side transmitting ICF frame for going from low-power to high-power. The assistance is used for other station to switch. If you don’t have the DPS switching, it is better to have a compact notion instead of a long description
         * C: But the term is not in motion
         * C: We do not need any additional capability for Assistance
         * A: It is needed. This is the first time I received this comment
         * C: Are you going to keep TBD request and response frame?
         * A: Yes
         * C: But that is not in agreement
         * A: But for all other features there is request/response and this should also need them
         * C: I understand that you have request/response to have the ability to accept or reject it. But in this case, they are not needed
         * A: The response to ensure that both sides are ready
         * Chair asked if the author prefers Q&A or straw poll. Author opts for Q&A
         * C: In MLPM, there is a TBD and there are unresolved items, so remove the length of the control information subfield of 20 bits and change it to TBD
         * A: Changed on the fly
      5. **Straw Poll deferred**
   3. Not enough time to go over the rest of the PDTs. Will be rescheduled
5. StrawPolls
   1. ***SP1 – Dmitry Akhmetov – Channel Access (101Y/65N/56A)***
      1. Do you agree to define HIP EDCA in UHR where a STA with Low Latency traffic may be allowed, based on TBD conditions, to send a Defer Signal (e.g. CTS frame or RTS) to start a protected short contention for pending LL data

* Conditions to be allowed to send a Defer Signal is TBD
* STA in HiP EDCA always use RTS/CTS as initial frame exchange and retry.
* Duration of protected short contention is TBD.
* Access parameters (AIFSN, CW and the expansion rules) used to transmit the Defer Signal are TBD.
* The retry count where the Defer Signal is allowed to be sent is TBD
* Contention parameters for the protected short contention are TBD. The STAs that transmitted a Defer Signal but did not win the protected short contention will initiate a new retry.
* Low Latency traffic is treated as AC\_VO traffic. Other cases are TBD.
* The solution would provide control on the degree of collisions that may occur while using it and, allows for autonomous randomness or/and controlled by the AP
* No new synchronization requirement on STA side

*Supporting list: [24/1144r1]*

* + 1. Author walked through the poll
    2. Discussion
       - C: Asked before we should use such a long frame for Defer signal
       - A: We had this discussion before. But my personal preference is to use RTS
       - C: My preference is to remove the type of Defer Signal and have that discussion later
       - C: In support of the SP
       - C: Another in support of the SP
       - C: Is there any plan to define low-latency traffic as this is a broad definition
       - A: I am sympathetic to you, but for now, for simplicity, it can be just tied to AC\_VO. There are people with other opinions and we would like to resolve in the next round of discussions
       - C: The last bullet says it does not new synchronization requirement on STA side. It may be cases STAs may do it, so perhaps should be said as “no new synchronization” as mandatory
       - A: Unfortunately in Wi-Fi if a STA is going to transmit on its own and you will have multiple STAs and this is on top of EDCA
       - C: It would be good for STAs to synchronize as that will improve the probability of no collisions
       - A: Is it acceptable to change the last bullet to “No new mandatory synchronization requirement on STA side”
       - C: Yes. Text changed.
    3. Straw Poll was run
       - A recorded vote has been requested. Records are in Appendix.
       - **Result: 101Y, 65N, 56A**
  1. ***SP2 – Jerome Gu – MAP (71Y/49N/62A)***
     1. Do you support adding the following to the 802.11bn SFD?
        + Including low latency traffic notification in multi-AP coordination, to notify the presence of low latency traffic among APs (including UL LL and DL LL.

*Supporting document: 24/1145*

* + 1. SP was run
       - A recorded vote has been requested. Records are in Appendix.
       - Result: **71Y, 49N, 62A**
  1. ***SP3 – Jerome Gu – Bandwidth Expansion (53Y/114N/58A)***
     1. Do you support adding the following to the 802.11bn SFD?
        + In AP-to-AP TXOP sharing, TGbn defines a mechanism for the TXOP bandwidth expansion.
        + The primary channel of the sharing AP and the primary channel of shared AP can be either overlapped, or staggered.

*Supporting documents: 23/2211, 24/0850*

* + 1. Discussion
       - C: If we go through this route it will break the overall framework
       - A: Currently we are building the framework
       - C: But Multi-AP has the same primary channel
       - A: But that is one case but there can be other cases. This is a SP and may have two cases
       - C: I am not clear why the TXOP bandwidth expansion appears to be short scale and will add overhead and not the path that we can take.
       - A: It needs more explanation
       - C: This is a high-level SP. For NPCA case, smaller bandwidth is used. (couldn’t understand the explanation)
       - A: Need more discussion
    2. SP was run
    3. A recorded vote has been requested. Records are in Appendix.
       - Result**: 53Y, 114N, 58A**
  1. ***SP4 – DongJu Cha– NPCA ( Deferred)***
     1. Do you agree to include the following into the 11bn SFD?
        + NPCA AP that obtains a TXOP on the NPCA Primary channel shall ensure that the TXOP ends before the end time of OBSS activity that makes the BSS Primary channel busy minus channel switch back delay

*Supporting documents: [23/1913]*

* + 1. **SP deferred**
  1. ***SP5 – DongJu Cha– NPCA ( Deferred)***
     1. Do you agree to include the following into the 11bn SFD?
        + NPCA AP which performs channel access on the NPCA Primary channel shall be switched back to the BSS Primary channel before the duration of the OBSS activity that makes the BSS Primary channel busy ends

*Supporting documents: [23/1913]*

* + 1. **SP deferred**
  1. ***SP6 – DongJu Cha– NPCA ( Deferred)***
     1. Do you agree to include the following into the 11bn SFD?
        + Define a mechanism that allows NPCA non-AP STA to enable or disable the operation of NPCA

*Supporting documents: [24/427]*

* + 1. **SP deferred**
  1. ***SP7 – Jay Yang – MAP (80Y/82N/52A)***
     1. Do you agree to include the following into the 11bn SFD?
        + In C-TDMA,C-BF and TBD other MAP schemes , the initiator AP and the responder AP may have different primary channels.
        + The primary channel of the responder AP shall be within the BSS operating channel bandwidth of the initiator AP and shall not be the punctured subchannels announced in the EHT Operation element by the initiator AP, and vice versa.

*Supporting documents: [24/838r0, 24/1075r1]*

* + 1. Discussion
       - Need more discussion to define primary channel and would like the SP to be deferred
       - Chair asks if the author wants to run the SP. The author chooses to run the SP
       - C: Having multiple primary channels will be disruptive, and not support this SP
       - C: Want to clarify. You have identified only C-TDMA and C-BF for others
       - A: Yes, it is not clear how to handle other modes, so limiting to this one
    2. SP was run
       - Recorded count requested. Records are in appendix.
       - Result**: 80Y, 82N, 52A**

1. **Submissions – Roaming Part 3**
   1. [24/1591](https://mentor.ieee.org/802.11/dcn/24/11-24-1591-04-00bn-thoughts-on-seamless-roaming-and-npca.pptx) Thoughts on Seamless Roaming and NPCA Ning Gao [Q&A]
      1. Discussion
         * Presentation was made last night. Q&A and SP at this point
         * SP: Slide 7 of 1591r4
         * C: Slide4, the scenario exists
         * A: Yes, that is why I have the expiration time using a TSF timestamp
         * C: What would be the expiration time? There may not be NPCA delay, but there could be other delays
      2. SP, slide 7 of 159r4 will be run. The question is, “D o you agree that the different view of channel problem (shown in slide 3) should be considered when NPCA is enabled in seamless roaming procedure”
      3. Result : **41Y, 88N, 54A**
   2. [24/1746](https://mentor.ieee.org/802.11/dcn/24/11-24-1746-03-00bn-comparision-between-enhanced-fast-bss-transition-and-smd.pptx) Comparison Between Enhanced FT and Distributed SMD Guogang Huang
      1. Discussion
         * C: The conclusion that is made that PTK sharing has no benefit is not agreed by us. There are benefits especially if you have to do last-minute, panic roam, especially in the case of high-density environment, where there is lot of roaming
         * A: You should share something so that we can discuss. There is not much difference with and without
         * C: Slide 7, PTK will be bound to 802.1x MAC address and not the MLD
         * A: But each association between a pair of STAs creates a unique pair of IEEE 802.1x ports
         * C: (long comment, missed it) described in slide 5 should not be a problem.
2. Session Recessed at 12:30 PM

## Tuesday January 14, 2025, PM1

1. The chair called the meeting to order at 1:30 PM Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary for the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r8.
   1. The chair reviews agenda
      1. The agenda is approved by unanimous consent by all attendees.
4. Proposed Draft Text (PDT) presentations
   1. [24/2049r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2049-00-00bn-pdt-mac-m-ap-coordination-framework.docx) PDT MAC M-AP Coordination Framework Arik Klein [No Objection]
      1. r5 has been walked through by the presenter
      2. Discussion
         * C: typo: change “it’s” to “its”
         * A: changed
      3. SP will be run on r6:
         * SP Question: Do you agree to incorporate 11-24/2049r6 in the next TGbn Draft
         * No objection.
   2. [24/2031r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2031-00-00bn-pdt-mac-coordinated-spatial-reuse.docx) PDT-MAC-Coordinated-Spatial-Reuse Jason Yuchen Guo [No Objection]
      1. r5 being presented based on the changes that were made from the previous presentation r3
      2. Discussion
         * C: Do you support for more than one shared APs
         * A: There is no final discussion on it
         * C: I thought that the names will be changed from “sharing” and “shared” to something different
         * A; Yes, but the motion does not have it
         * C: It is editorial anyway
      3. SP will be run on r5:
         * SP Question: Do you agree to incorporate 11-24/2031r5 in the next TGbn Draft
         * No objection.
   3. [24/2040r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2040-00-00bn-pdt-mac-coexistence.docx) PDT MAC Coexistence Laurent Cariou [**106Y, 48N, 47A**]
      1. r5 presented based on the feedback received on the reflector. Author went through the set of changes
      2. Discussion
         * C: There are some TBDs. There are some TBDs which will have impact on the AP.
         * C: With the DUO mode, if a client sends one and a subsequent one, then the subsequent overrides and that may be a risk, prone to attack
         * C: The title fo the subclause refered in 37.x.1 is incorrect. Please fix it
         * C: PUO is a better name and PPS is not explained
         * C: For now, we will use TBD and we will finalize the name later
         * C: Do we follow the Channel Usage Procedure?
         * A; The motion implies that the P2P mechanism would be used
         * C: The response for including the unavailability period is not in the motion. It should be TBD to have a response frame
         * A: Author remarks that he intended to insert [TBD] in 7.x.2 second bullet below [M153] first occurrence, but did not as there has been an objection on the floor
         * C: We should not repeat verbatim as there is enough information
         * C: Page 5, figures are being added, it needs new labels
         * A: Agreed and made appropriate changes
      3. SP will be run on r6:
         * SP Question: Do you agree to incorporate 11-24/2040r6 in the next TGbn Draft
         * A recorded vote has been requested. Records in Appendix.
         * Result: **106Y, 48N, 47A**
   4. [24/2016r1](https://mentor.ieee.org/802.11/dcn/24/11-24-2016-01-00bn-pdt-mac-power-save.docx) PDT MAC power save Liwen Chu [**124Y, 27N, 55A**]
      1. r3 presented based on the commnents received on the last session (UHE control field is deleted)
      2. Comment on DPS assist – it is not there in the motion. Can that be removed?
      3. This text has been there a long time. I think assistance should be included
      4. SP run on r3:
         * Do you agree to incorporate 11-24/2016r3 in the next TGbn Draft
         * A recorded vote has been requested. Records in Appendix.
         * Result: 1**24Y, 27N, 55A**
   5. [24/1762r20](https://mentor.ieee.org/802.11/dcn/24/11-24-1762-20-00bn-pdt-mac-npca.docx) PDT-MAC-NPCA Matthew Fischer [SP]
      1. r22 presented based on the comments received
      2. Discussion
         * C: Missing “is TBD” in paragraph 2, page 15
         * C: The spec does not appear to tell what to do and the AP does not what to do. Perhaps draft language for it
         * A: still under discussion, it is being called TBD
         * A: At this point I can put in TBD for each paragraph
         * C: Perhaps defer and coming back
         * C: Not clear on the TBD in item a).b
         * b makes the TXOP duration to be TBD
      3. SP run on r23:
         * SP question: Do you agree to incorporate 11-24/176/r23 into the next TGbn Draft
         * Result: Do not have the record of the results, but has not received 75% support
5. Straw Polls
   1. ***SP1 – Jay Yang – MAP ( 93Y, 44N, 79A)***
      1. Do you agree to have a mechanism to protect the management frames between two APs during M-AP agreement negotiation procedure?
         * The mechanism is TBD

*Supporting documents: 23/1836r3 , 24/1693r0*

* + 1. Discussion
       - C: We need to have inter-BSS protection. Also this says management and not Data. There are details missing in this SP
       - A: Baseline PMF is already there and it needs to be extended
       - C: It is not as simple as it looks. In-BSS there is a trust between the AP and STA. Here there is no such trust
       - A: This is just direction and further details can be worked upon
    2. SP being run
       - A recorded vote has been requested. Records in Appendix.
       - Result: **93Y, 44N, 79A**
  1. ***SP2 – Jay Yang – Roaming ( Deferred)***
     1. Do you agree with the following:
        + As part of seamless roaming procedure, the non-AP MLD may indicate whether to receive to DL buffered data frame from the current AP MLD , and send the UL data frame to the current AP MLD via a TBD signaling?

*Supporting documents: 24/1476r2, 24/1701*

* + 1. **SP Deferred**
  1. ***5.2 SP3 – Frank Hsu – Feedback ( No objections)***
     1. Do you agree to define an Enhanced BSR Control subfield in A-ctrl to report a larger per TID queue size?
        + The Enhanced BSR Control subfield consists of at least a TID subfield and an unsigned value subfield to report the larger queue size (QS) of the TID
        + The reported QS is equal to 2147328 Octets + the value reported in the Queue Size field of the defined Enhanced BSR Control subfield
        + When the QoS Control with the same TID as the Enhanced BSR Control subfield is present in the same MPDU, the QS subfield of the QoS Control is set to value 254
        + TBD if the Enhanced BSR Control subfield shares the control ID with other Control subfield proposals in UHR
        + Note: The baseline rules which regulate HT control field to be the same in all MPDUs of the same frame type in an A-MPDU do not change
        + Note: Encoding of the baseline QS subfield in QoS Control does not change.
        + Note: Length of the Enhanced BSR Control subfield allows to aggregate the UPH in the same A-Control subfield

*Supporting documents: 11-24/0963, 11-23/2007*

* + 1. No comments and no objections to the SP.
  1. ***SP4 – Guogang Huang – QoS ( 116Y, 27N, 67A)***
     1. Do you support to optionally include an QoS Map element within the SCS Response frame transmitted by the AP MLD to update the DSCP-to-UP mapping for UL if the following conditions are true?
        + the TID and the User Priority subfields of the Control Info field in the associated QoS Characteristics element are set to different values within 0~7
        + the AP MLD and the non-AP MLD supports the QoS map operation

*Supporting documents: 24/2123r0*

* + 1. Discussion
       - C: There is a solution defined by another organization and would like to refer
       - C: Speaks in favor
    2. SP is run:
       - A recorded vote has been requested. Records in Appendix.
       - Result: 116Y, 27N, 67A

5.5 ***SP5 – Sindhu Verma – Control/Security ( Result)***

* + 1. Do you agree that the I-FCS in a Trigger frame is included as part of 2 contiguous User Info fields known as I-FCS User Info fields

*Supporting documents: 23/1873r0, 25/1440r0*

* + - * Discussion
      * C: There are some additional contributions which are supporting documents
      * A: The document shown here is the intention but not every details
      * C: The details have the more optimized mechanisms and the group should be informed
      * Chair: Has this been presented?
      * A: No
      * C: Add 23/2003r1. Chair asked the commenter if she agrees. She said that she will need to check.
    1. Chair: Running out of time. Add to PM2 session after checking with the TG chair

1. Session adjourned at 3:30 PM

## Tuesday January 14, 2025, PM2

1. The chair called the meeting to order at 10:30 Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary for the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r11.
   1. The chair reviews agenda
   2. A member requested addition of SP5-SP7 in PM1session
      1. The agenda is approved by unanimous consent by all attendees.
4. Straw Polls
   1. SP5 from PM1 ***SP5 – Sindhu Verma – Control/Security ( 76Y, 55N, 56A)***
      1. Do you agree that the I-FCS in trigger frame is incuded as part of 2 contiguous User Info fields known as I-FCS User Info fields

*Supporting documents: 23/1873r0, we/2003r1, 25/0144, 24/497r0, 24/1129r1*

* + 1. Discussion
       - C: It would be beneficial to have the comparison so that the group has all the information
       - C: There may be some complications with Secure control frames and good to discuss jointly
       - A: Secure control frames are not in the scope currently
    2. SP was run
       - A recorded vote has been requested. Records in Appendix
       - Hit a snafu in running the SP. It was rerun
       - Result: **76Y, 55N, 56A**
  1. SP6 from PM1 ***SP6 – Sindhu Verma – Control/Security ( 70Y, 61N, 62A)***
     1. Do you agree that the AID in these 2 I-FCS User Info fields have the same special AID12 values of 2009

*Supporting documents: 23/1893r0, 25/144, 24/497r0 and 24/1129r*

* + 1. Discussion
       - C: Object to it because it is dependent on SP4
       - Author wouild like to run the SP anyway
    2. SP being run
       - A recorded vote has been requested. Records in Appendix
       - Result: **70Y, 61N, 62A**
  1. SP7 from PM2
     1. Deferred

1. Proposed Draft Text (PDT) presentations
   1. [24/2056r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2056-00-00bn-pdt-mac-twt-sp-management.docx) PDT-MAC-TWT SP Management Kumail Haider [SP]
      1. Kumail not in the room, deferred for later consideration
   2. [24/2020r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2020-00-00bn-pdt-for-uhr-mac-introduction-section.docx) PDT for UHR MAC Introduction section George Cherian [No objection]
      1. r1 based on the comments received after presentation
      2. No discussion or questions
      3. SP being run
         * SP Question: Do you agree to incorporate 24/2020r1 into the next 11bn draft
         * No objection to the SP
   3. [24/2068r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2068-00-00bn-pdt-mac-uhr-mac-operation-element.docx) PDT MAC UHR MAC Operation Element Ming Gan
      1. Document has been walked through
      2. Edits are suggested which have been accepted
      3. SP being run
         * SP question: Do you agree to incorporate 24/2068r1 into the next 11bn draft
         * No further discussion
         * No object to the SP
   4. [24/2067r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2067-00-00bn-pdt-mac-uhr-bss-operation.docx) PDT MAC UHR BSS Operation Ming Gan
      1. Document has been walked through
      2. Discussion
         * C: The text can be simplified with “An UHR STA is an EHT STA”. We can work offline
         * C: Similar comment
         * C: But .11be has similar statements.
         * Some editorial comments offered
      3. SP will be deferred to work on simplified text
   5. [24/2066r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2066-00-00bn-pdt-mac-acknolwedgement-procedure.docx) PDT MAC Acknolwedgement Procedure Ming Gan
      1. Document has been walked through
      2. Discussion
         * C: Is the second paragraph same as in EHT
         * A: To ensure that there are other responses that may be used, such as DUO.
         * C: Just add to TBD, “subclause when non-acknowledgement context is also carried in the same Multi-STA BlockAck frame”
         * Comment accepted and incorporate
         * C: Need to add “TBD procedure is for UHR ELR PPDU”
         * A recommendation to do spell check
      3. SP deferred
   6. [24/0088r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0088-00-00bn-pdt-mac-p2p.docx) PDT MAC P2P Rubayet Shafin
      1. Document is 25/0088r2 and the document has been walked thorugh
      2. Some edits hace been suggested which have been incorporated
      3. SP question: Do you agree to incorporate 25/008r3 into the next 11bn draft
      4. No further discussion
      5. No objection to the SP
2. Straw Polls
   1. ***SP1 – Sherief Helwa – Coexistence (No objections)***
      1. Do you agree with the following for UHR-variant Trigger frame:
         * Responding PPDU format is non-HT (Dup) PPDU format: reuse entry value 3 in GI and HE/EHT LTF type in UHR-variant common info field
         * Other values are used for UHR TB PPDU format

*Supporting list: [11-24/1558]*

* + 1. No comments and no objections
  1. ***SP2 – Sherief Helwa – Coexistence (No objection)***
     1. Do you agree to include the CoEx unavailability information in a new “Special User Info” field with AID12 set to 2008 of the BSRP Trigger frame when used as an ICF to report CoEx unavailability information
        + A Feedback Type (name TBD) field (4 bits field – B12 to B15 of the “Special User Info” field) which is set to 0 to indicate that the “Special User Info” field is carrying CoEx unavailability information
        + CoEx unavailability information includes two parameters: Unavailability Target Start Time and Unavailability Duration (these fields are already defined)

*Supporting list: [11-24/1558]*

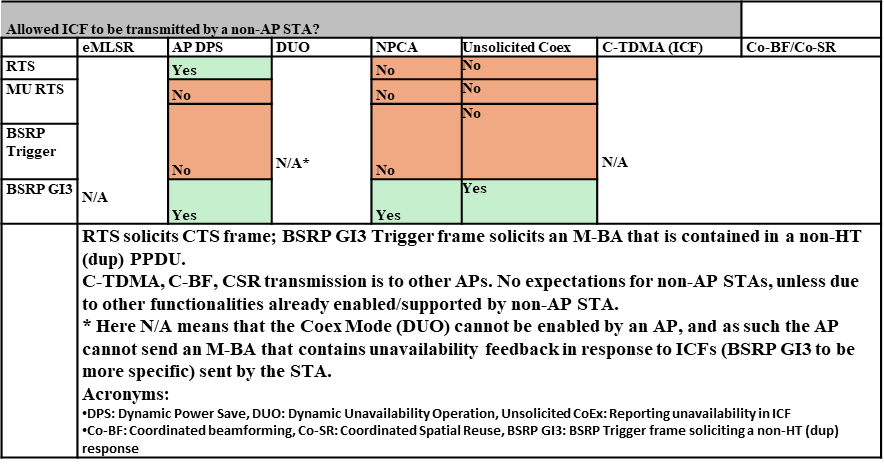
* + 1. Discussion
       - C: Do you really need the Feedback field
       - A: Agree. Edits are agreed upon it. Change “Feedback” to “feedback”
    2. No further comments and no objections to SP
  1. ***SP3 – Sherief Helwa – Coexistence (No objection)***
     1. Do you support to define a special Feedback Per AID TID Info field (name TBD) that carries control feedback in the M-BA frame?
        + The control feedback (i.e. unavailability indication) is carried instead of the BlockAck Bitmap in that Feedback Per AID TID Info field
        + The Ack Type subfield of the Per AID TID Info field is set to 0 and the TID subfield of the Per AID TID Info field is set to the value 13
        + The AID11 subfield of this Per AID TID Info field is set to 2008 value if the control feedback is addressed to all STAs or to the AID11 that identifies the intended recipient STA
        + The Starting Sequence Number field of this Per AID TID Info field is reserved

*Supporting list: [11-24/543, 11-24/1558]*

* + 1. No comments and no objections
  1. ***SP4 – Sherief Helwa, Liwen Chu – ICF/ICR (Deferred)***
     1. Do you agree with the following:

Green: allowed

Orange: disallowed



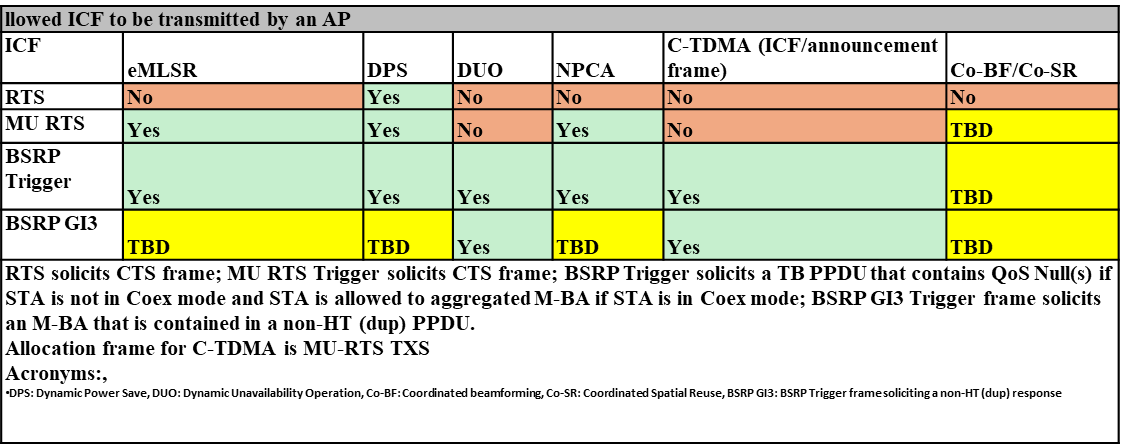
*Supporting list: [24/1558, 24/1221, 24/1225, 24/1564, 24/1563]*

* + 1. Discussion
       - C: clarification requested on the table, which were addressed
       - C: Having DUO and unsolicited coex is confusing, DUO should be solicited
       - A: change DUO to solicited
       - C: N/A does not mean coex is not enabled, but the unavailability feedback would not be available
       - C: Concern about an asterisk that contains unavailability feedback and would like more discussion. It feels like AP is more restricted based on the second sentence and would like more discussion
       - C: I find it exceedingly confusing and a new document would be better. The cells are not misaligned. Suggest make the table clearer
    2. Author chooses to defer and requests feedback
  1. ***SP5 – Sherief Helwa, Liwen Chu – ICF/ICR ( Deferred)***
     1. Do you agree with the following:

Green: allowed

Yellow: TBD

Orange: disallowed



* + 1. Deferred
  1. ***SP6 – Dibakar Das – CTDMA (81Y, 34N, 58A)***
     1. Do you agree that:
        + The maximum time allocated by a sharing AP in a TXOP to all shared AP for CTDMA is not larger than the TXOP limit it advertised for the minimum between AC\_VI TxOP limit and the TxOP Limit of the AC it obtains the TxOP with to its associated STAs.

If TXOP limit for an AC is 0, there is no CTDMA in a TXOP obtained using that AC.

* + - * The sharing AP shall use at least a TBD portion of the TXOP it shares for data communication with its own associated STAs.

Note: similar consideration will apply for TXS mode 2

*Supporting list: 11-24-0093*

* + 1. Discussion
       - C: I think you talked about this in November meeting for fairness issue. This needs to be left to implementation, there is no need to have limits in the standard
       - C: What is the intention of TXS mode 2 that applies to P2P. How does that apply?
       - A: It would be good to have mode 2 and just a design guideline
       - C: I do not understand how they relate. It may not be a good idea to put Notes until we understand it fully
       - C: The interpretation is that
       - C: The second bullet is too restricted and instead have a should
       - A: It is not restricting because it is a TBD
    2. Straw Poll is being run
       - A recorded vote has been requested. Records in Appendix
       - Result: **81Y, 34N, 58A**
  1. ***SP7 – Dibakar Das – QoS (84Y, 31N, 55A)***
     1. Do you agree that UHR should allow more than two TIDs to be mapped to high priority ACs (i.e., VO or VI)?
        + Upto one TID for each AC currently assigned to BE and BK are remapped.
        + Those TIDs may be used dynamically (e.g., following an SCS flow setup).

*Supporting list: 24/463r1, 24/1899, 23/0069*

* + 1. Running out of time, no discussion
    2. SP Will be run.
       - A recorded vote has been requested. Records in Appendix
       - Result: **84Y, 31N, 55A**

1. Session in recess at 6:00 PM

## Wednesday January 15, 2025, AM2

1. The chair called the meeting to order at 10:30 Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary for the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r11.
   1. The chair reviews agenda
   2. A member requested addition of SP5-SP7 in PM1session
      1. The agenda is approved by unanimous consent by all attendees.
4. Proposed Draft Text (PDT) presentations
   1. [25/0102r0](https://mentor.ieee.org/802.11/dcn/25/11-25-0102-00-00bn-pdt-mac-mlme-for-mapc.docx) PDT-MAC-MLME-for-MAPC Brian Hart
      1. Author walked through the document
      2. No SP proposed
5. Straw Polls
   1. ***SP1 – Subir Das – Channel Access ( Deferred)***
      1. Do you agree to define an optional mechanism that enables priority channel access for non-AP STAs affiliated with non-AP MLDs that have EPCS activated for transmission of management frames prior to the non-AP MLDs’ (re)association with the AP MLD?

Notes:

* + - * Priority channel access may be assigned to the non-AP MLD by the AP MLD when the AP MLD is triggered to do so by an external entity (e.g., when emergency is declared and/or be based on pre-determined rules/conditions)
      * The mechanism is TBD
      * “EPCS activated” indicates non-AP MLDs that have been provisioned to use EPCS
    1. ***SP1 deferred***
  1. ***SP2 – Subir Das – Channel Access ( Deferred)***
     1. Do you agree to define an optional mechanism that enables AP MLD to terminate or degrade lower priority communications in favor of higher priority communications.

*Supporting docs: [24/984r4]*

* + 1. ***SP2 deferred***
  1. ***SP3 – Po-Kai Huang – Security (125Y, 85N, 42A)***
     1. Do you support the following in 802.11bn?
        + Define Trigger frame protection
        + Define BAR frame protection for Compressed BAR and Multi-TID BAR variants
        + Define BA frame protection for Multi-STA BA variants

*Supporting documents: [23/1995r0, 23/1933r0, 23/1914r2, 23/1915r1, 23/2001r2, 23/312r0, 23/286r0, 23/352r1, 23/1102r0, 24/535r0, 24/497r0, 24/547r2]*

* + 1. Discussion
       - C: It adds overhead and not sufficient
       - A: The overhead is negligible compared to overhead introduced by ICF/ICF
       - C: Speaks in favor of the SP
       - C: Protection of ICF/ICR and is not protected APs information including for OBSS. Speaks against it
       - A; This is not for AP security and two are different
       - C: Speaks against. Overhead and complexity and is not clear on the gain that one could have
       - A: Before management protection is applied we have seen attacks and it can happen for other cases. Just like in management and overhead, we do add some overhead and this is very low
       - C: The overhead is not just on the air, but also in the hardware. Speaks against
       - A: there is some complexity but implementations are able to handle due to padding and trigger frame response
       - C: Respond to earlier commenter. There are other ways to attack so this is not solving all cases
       - C: strong concern. There is overhead, and is complex and no benefits
    2. Straw Poll being run
       - A recorded vote has been requested. Records in Appendix
       - Result: **125Y, 85N, 42A**
  1. ***SP4 – Minyoung Park – DSO (* 190Y, 91N, 25A*)***
     1. Do you agree that TGbn will define a mechanism where a non-AP STA can be allocated resources dynamically (i.e., on a per-TXOP basis) outside of its current operating bandwidth and within the associated AP’s BSS bandwidth?

*Supporting list: [11-22/2204, 11-23/2141 (Sindhu & Shubho), 11-23/843 (Liuming), 11-23/1496 (Kaiying), 11-23/1892 (Gaurang), 11-23/1913 (DongJu), 11-23/1935 (Liwen), 11-23/2027 (Vishnu), 11-24/591 (Morteza), 11-24/1157r1 (Hank Hyeonjun Sung)]*

* + 1. Discussion
       - C: Speaks in opposition due to the calibrations
       - A: Anything that is needed can be added
       - C: Speaks in favor
       - C: against. DSO adds complexity to achieve channel switch, which is not easy. In mixed environment the bigger problem is that with wide bandwidth to form a non-overlapping BSS and this would prevent from forming a BSS with least interference. Do not see much benefit.
       - A: The reality is that not all STAs can support wide bandwidth and can try to use a large bandwidth (such as 320 MHz) with the STAs using smaller bandwidth and DSO may make sense
       - C: Agree that it is a good solution. But this is not a simple especially limiting to one TXOP and cannot be used to enable it efficiently. Recomment remove “on a per TXOP basis” in paranethesis and resolve the per TXOP basis
       - A: It is up to the group if they would like to remove the text in parenthesis
       - C: This needs to be done in a cost-effective way as long transition delay introduced
       - A: There are many different ways to address the issue
       - C: Speaks strongly in support of the feature
       - C: We run this SP again and again and it seems people are not convinced. We already have SST with same advantage with no cost. In enterprise, a typical bandwidth is 40 MHz or 80 MHz, so it does not seem that there are usecases for this feature
       - C: There are some proposals to expand bandwidth in enterprise environment. So, DSO may be useful in those cases
       - C: Agree with removing on a per-TXOP basis
       - A: Would a per TXOP basis TBD work?
       - C: Need to mention in the SP or remove the text in parenthesis
       - A: replace “i.e”., with “e.g.” commenter did not accept
       - C: Strongly supports and we can work on next level of details. Regards SST, we should look at each feature on its own merit
       - C: Speaks against it. There is misunderstanding on the intention. We are not talking about SST, we think there will be issues in DSO implementation and we should discuss if we should have it and the problems that are associated, for example the long delay
       - A: Understand the long delay issue and there are ways to address it
       - C: Feels that it is a key feature and Wi-Fi 8 will not be attractive without it. The timing requirements are any different from EMLSR
    2. Straw Poll is run.
       - Requests running with and without the text in parenthesis
       - Chair says that he would rule after running the first SP as there could be issues with agenda time
       - A recorded vote has been requested. Records in Appendix
       - Result: **190Y, 91N, 25A**
  1. ***SP5 – Sindhu Verma – Control/Security ( Deferred)***
     1. Do you agree that the PN and MIC in a Trigger frame are included in 8 contiguous dedicated User Info fields, and that the first 2 User Info fields carry the 6-bytes of the PN field in fragments of 3 bytes; and the following 6 User Info fields carry the 16-bytes of the MIC field in fragments of 3 bytes each, except for the last user info field that contains the last 1 byte of the MIC field
        + Within these dedicated User Info Fields, the 4 bits [B12-B15] after the AID12 field are reserved to align on the byte boundary followed by either 3 bytes of content [B16 to B39] or 1 byte of content [B16 B23]?

*Supporting documents: 24/1873r0*

* + 1. **Deferred**
  1. ***SP6 – Liwen Chu – Control/Security ( Deferred)***
     1. For MU-BAR, each of the dedicated User Info fields that contain the PN and MIC shall have the same length as the Special User Info field (with AID12 value 2007) of the MU-BAR Trigger frame.

*Reference document: [11-24/0497r0]*

* + 1. **Deferred**
  1. The author of SP4 requests for a motion to change the agenda to run an amended SP4.
     1. Motion to change the agenda to add modified SP4. It needs a 2/3rd vote
        + Since this is an ad hoc everyone can vote
        + Question from the floor if it is majority or 2/3rd and the chair confirms that it. no validation of the results will be possible since this needs to be immediately actionable
        + Answer: That is correct
     2. Motion: the agenda by adding a modified SP4a after SP4 in Slide 97
        + Moved by Minyoung and seconded by Mohammed
        + A recorded vote has been requested. Records in Appendix
        + Result: 177Y, 98N, 21A – Motion failed
  2. ***SP7 – Jay Yang – MAP ( No objection)***
     1. As a part of M-AP coordination agreement procedure, an AP may assign an AP ID to another AP via the TBD individually addressed management frame.
        + AP ID and AID have the same size and range as defined in AID field (see 9.4.1.8)
        + AP shall ensure that the AP ID value is not assigned by the AP or its MLD to any other STA (e.g., STA is an associated non-AP STA, an unassociated non-AP STA that has been allocated a RSID , or any other coordinated AP), or a non-AP MLD that is associated with the AP MLD
        + The AP ID value is not less than 2^n
        + When the AP is affiliated with an AP MLD, then n is the maximum of the value carried in the MBSSID Indicator (n) field of the Multiple BSSID element for any affiliated AP of the AP MLD that belongs to a multiple BSSID set.

*Reference document: [207, 208, 157, 117, 118, 122, 123, 108, 115, 124, 158]*

* + 1. No discussion. No objection to the SP

1. Submissions
   1. [24/1545](https://mentor.ieee.org/802.11/dcn/24/11-24-1545-01-00bn-providing-granular-transmit-psd-limits.pptx) Providing Granular Transmit PSD Limits Pelin Salem
      1. Document walked through
      2. Discussion
         * C: More details to think through on preamble being a place to signal through
         * A: The reason we are thinking is that it needs a protocol change
         * C: The question is on the signal of preamble but the preamble signal will be set to worst-case value that we have today
         * Take it offline
         * Author requests to run the SP:
      3. SP question:
         * Do you agree to add the following text to the 11bn SFD: 11bn shall define a mechanism for a non-AP STA to obtain granular regulatory transmit power limits?
         * A recorded vote has been requested. Records in Appendix
         * Result: **57Y, 20N, 103A**
   2. [24/1453](https://mentor.ieee.org/802.11/dcn/24/11-24-1453-00-00bn-concurrent-messaging.pptx) Concurrent Messaging Yue Xu
      1. Document walked through
      2. Discussion
         * C: Do you have any idea on indication of the group
         * A: We have the protocol on how to establish a group and how to use it and will be presented in the future
      3. SP question:
         * Do you agree that the ‘grouping’ in scenarios with concurrent messages (as described in the submission) is an issue that needs further research and discussion)
         * Result: **55Y, 42N, 86A**
   3. [24/1692](https://mentor.ieee.org/802.11/dcn/24/11-24-1692-00-00bn-usage-of-expiration-time-for-ll-traffic.pptx) Usage of Expiration Time for LL Traffic Liangxiao Xin
      1. Document walked through
      2. Discussion
         * C: The SCS with QoS Characteristics will probably address your use case
         * A: We think we will need more in there
         * C: Slide 8, it is true that you cannot forward SN=X if X+1 and X+2 are already forwarded. But with reordering buffering this will be allowed
         * A: But this reordering may not work for low-latency
         * C: This can be done today if you have the right information
         * Slide 6, with separate TIDs, this can be handled
2. Session is recessed at 12:30 PM

## Wednesday January 15, 2025, PM2

1. The chair called the meeting to order at 4:00 PM Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary for the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r12.
   1. The chair reviews agenda
   2. A member requested addition of SP5-SP7 in PM1session
      1. The agenda is approved by unanimous consent by all attendees.
4. Proposed Draft Text (PDT) presentations
   1. [24/2056r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2056-01-00bn-pdt-mac-twt-sp-management.docx) PDT-MAC-TWT SP Management Kumail Haider [No objection]
      1. R1 was presented
      2. No comments
      3. SP question: Do you agree to incorporate 24/2056r1 into the next 11bn draft?
      4. No question and no objection.
5. SPs
   1. ***SP1 – Sanket Kalamkar – C-TDMA ( No objection)***
      1. **Do you agree to amend the text below in the TGbn SFD as follows:**
         * Do you agree that a TXOP owner AP shall announce its intention of sharing a portion of the time resource of its TXOP for C-TDMA operation, in an Initial Control frame (exact ICF and name TBD) sent at the beginning of the TXOP and that the frame polls AP(s) with whom it may share the TXOP to determine their interest?
         * A TXOP owner AP that intends to share its TXOP is referred to as a sharing AP.
         * A candidate AP identified (polled) in the Initial Control frame is referred to as a polled AP.
         * The Duration field of the frame is set to the length of time required to transmit the solicited response frame plus one SIFS.
         * ~~Whether or not the sharing AP is mandated to send the Initial Control frame that announces that intention is TBD.~~

*Supporting documents: 11-23/1895, 11-24/0423, 11-24/1016, 11-24/1017, 11-24/1225].*

* + 1. No comments and no objections to the SP
  1. ***SP2 – Sanket Kalamkar – C-TDMA ( No objection)***
     1. **Do you agree that in 11bn, the ICF (polling frame) sent as part of Co-TDMA operation shall be a BSRP Trigger frame?**

*Supporting document: 11-24/1225r1*

* + 1. No comments and no objections to the SP
  1. ***SP3 – Sanket Kalamkar – C-TDMA ( No objection)***
     1. **Do you agree that in 11bn, as part of Co-TDMA operation, a poll response from a polled AP solicited by the ICF shall be carried in an M-BA frame?**

*Supporting document: 11-24/1016r3*

* + 1. No objection to the SP
  1. ***SP4 – Liangxiao Xin– Low Latency: ( Deferred)***
     1. Do you support to include the following in SFD?
        + 1. 11bn defines a mechanism for non-AP STA to provide the metric of the expiration time of LL buffered data to its AP.
        + Note: this feature is optional.

*Reference document: 24/1692, 23/0885r0, 24/264r1*

* + 1. Discussion
       - C: What do you mean metric? What kind of metric?
       - A: It is TBD
       - C: It says management frame, but there are proposals with A-Control and should incorporate them
       - C: Each MSDU will have its own timer. If you report this information to the AP, but how it will take into account
       - A: Maybe not mandatory, but the AP will get information that this is expiring and can take
       - C: Concern with the management frame. Remove the management frame
       - C: Request to defer
    2. **Deferred**

## Thursday January 15, 2025, AM1

1. The chair called the meeting to order at 8:00 AM Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary of the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r13.
   1. The chair reviews agenda
   2. A member requested addition of SP5-SP7 in PM1session
      1. The agenda is approved by unanimous consent by all attendees.
4. Proposed Draft Text (PDT) presentations
   1. [24/1978](https://mentor.ieee.org/802.11/dcn/24/11-24-1978-01-00bn-detailed-text-proposal-on-low-latency-indication.docx) Detailed text proposal on low latency indication Mohamed Abouelseoud
      1. Document walked through
      2. Discussion
         * C: Is this beyond more such as refernce to SCS
         * A: Yes, expected to work with SCS agreement
      3. SP question: Do you agree to incorporate 24/1978r2 into the next 11bn draft
         * No discussion. No objection
5. ***SP1 – Serhat Erkucuk – C-TDMA: ( No objections)***
   1. **Do you agree to add the following text to the TGbn SFD?**
      1. During Co-TDMA, TGbn defines a mechanism for a Co-TDMA sharing AP to transmit to a Co-TDMA coordinated AP an indication of whether the Co-TDMA coordinated AP returns the remainder of the allocated time (if any) back to the Co-TDMA sharing AP.
         * How to signal the indication is TBD.
         * Note: Co-TDMA sharing AP has the capability of receiving a TXOP return if the Co-TDMA coordinated AP is to return the remainder of the allocated time.

*Supporting document(s): [24/1250]*

* + 1. No comments and no objections
  1. ***SP2 – Dibakar Das– QoS: ( No objection)***
     1. **Do you agree that UHR should allow more than two TIDs to be mapped to high priority ACs (i.e., VO or VI)?**
        + Up to one TID for each AC currently assigned to BE and BK are remapped.
        + Those TIDs may be used dynamically (e.g., following an SCS flow setup).
        + *Supporting docs: 24/463r1, 24/1899, 23/0069, 24/2123*
     2. No comments and no objections
  2. **SP3 – Mike Montemurro – Roaming: ( No objection)**
     1. Do you support adding the following to 11bn SFD?
        + 11bn defines a Seamless Mobility Domain (SMD, exact name TBD) that covers multiple AP MLDs, where a non-AP MLD can use the UHR seamless roaming procedure to roam between the AP MLDs of the SMD?
        + A logical SMD Management Entity (SMD-ME, exact name TBD) provides association, IEEE 802.1X Authenticator (except for the management of 802.1X control ports which is TBD) and RSNA Key management for non-AP MLDs across all AP MLDs of the SMD.
        + A non-AP MLD transitions between AP MLDs within the SMD while maintaining its association and security association with the SMD-ME.
        + The non-AP MLD can transition from one SMD that are part of the same MD (Mobility Domain) using FT with improvements

*Reference documents:[24/2072, 24/1894, 24/0052, 23/1884, 23/1937, 23/1996, 24/830, 24/0083, 24/0101, 24/0396, 24/1812, 24/0398, 24/0412, 24/0655, 23/2157, 24/679, 24/1425, 24/881, 24/1882,  24/1883, 23/1897, 24/0349, 24/0480, 23/1416, 24/0881, 23/1897, 24/0349, 24/1746]*

* + 1. Discussion
       - Last bullet added
       - C: Is this an optional feature for non-AP MLD?
       - A: Yes, it is.
       - C: Mandatory/optional question needs to be resolved for all the features
    2. No comments and no objections
  1. **SP4 – Mike Montemurro – Roaming: ( No objection)**
     1. Do you support adding the following to 11bn SFD?
        + 11bn defines that within a Seamless Mobility Domain (SMD, exact name TBD) the data path includes either one MAC-SAP for the SMD or a separate MAC-SAP per AP MLD of the SMD.
        + In the case of a separate MAC-SAP per AP MLD, the DS mapping is updated when the non-AP MLD roams to another AP MLD within the SMD.
        + In the case of a separate MAC-SAP per AP MLD, the component of the 802.1X Authenticator in the SMD-ME interacts with an 802.1X Authenticator component in the AP MLD that manages the 802.1X controlled port for the non-AP MLD.
        + In the case of a single MAC-SAP for the SMD, the 802.1X Authenticator in the SMD-ME manages the 802.1X controlled port for the non-AP MLD.

*Reference documents:[24/2072, 24/1894, 24/0052, 23/1884, 23/1937, 23/1996, 24/830, 24/0083, 24/0101, 24/0396, 24/1812, 24/0398, 24/0412, 24/0655, 23/2157, 24/679, 24/1425, 24/881, 24/1882,  24/1883, 23/1897, 24/0349, 24/0480, 23/1416, 24/0881, 23/1897, 24/0349, 24/1746]*

* + 1. No comments, no objections
  1. **SP5 – Sherief Helwa – Control: ( No objection)**
     1. Do you agree with the following for UHR-variant trigger frame:
        + iFCS present: 1 bit field in UHR-variant common info field
        + TBD for HE/EHT-variant
        + Supporting list: [11-24/544]
     2. No comments, no objections
  2. **SP6 – Laurent Cariou – Miscellaneous: ( 121Y, 50N, 54A)**
     1. **Do you agree to add to the 11bn SFD:**
        + For the following features, if an AP supports the feature, then it shall accept a request from an associated STA to enable or disable the feature on its (STA) side
          - Dynamic unavailability operation
          - Dynamic power save

Supporting list: [??]

* + 1. Discussion:
       - C: Do we have any interest in a counter proposal or hints based on the client’s request?
       - A: This is a dynamic feature and there are no parameters
       - C: Is this saying that an AP has to accept the request for enabling the feature or for the acutal operation?
       - A: This is for enabling the feature
       - C: This is an indication for all the clients. This is for enabling on the non-AP STA
       - A: Replace the “associated STA” with “associated non-AP STA”
       - C: I am preparing a contribution to list out the complexity and request to defer
       - A: We would like to hear the reasons
       - C: When a client is enabling dynamic operation, there are additional customers, they may have no interest in support the use case and is not something that is considered. Is it AP supports, implements or activates?
       - A: Support means the Capabilit bit is set. Otherwise no
       - C: There could be reasons due to capacity. If 51 have requested the AP may be able to support with 50
       - A: Discussed this with AP vendors and they appear to be comfortable with it
       - C: I share the same concern as the previous commenter. “shall” is too extreme here
       - C: This allows more efficient management of co-existence. There is scope for abuse, but all features will have it. There will be discussion anyway and there will be necessary qualifications made.
       - C: Share similar concerns, “shall” is too strong. We need more discussion. Request to defer this and have more offline discussion
       - C: Further edits to the question proposed
       - C: Can we have two SPs? One on the first bullet and second on the bullet
    2. Modified Question:
       - For the following feature, if an AP supports the feature, then it shall accept a reqest from an associated non-AP STA to enable or disable the feature for the non-AP STA
         1. Dynamic unavailability operation
         2. Dynamic power save
    3. Chair requested two minutes to run the SP. Meanwhile movin to the next SP
    4. Resumed back after item 19.7, SP is being run
       - A recorded vote has been requested. Records in Appendix
       - Result: **121Y, 50N, 54A**
  1. ***SP7 – Yelin Yoon – Roaming (*180Y, 14N, 57A*)***
     1. **Do you agree to add the following text to the TGbn SFD?**
        + When a non-AP MLD is in the process of roaming from a current AP MLD to a target AP MLD, the non-AP MLD can request to the current AP MLD what contexts need to be transferred from the current AP MLD to the target AP MLD.
        + What contexts can be requested is TBD
        + How the current AP MLD responds to the request is TBD
        + It applies when the current AP MLD and the target AP MLD support the context transfer

*Supporting documents: [24/1516, 242/0396, 24/830, 24/1883, 24/1890, 24/1746, 24/1851, 23/1416, 24/1898, 24/0052]*

* + 1. Discussion
       - C: Agree with the general direction. It would be stronger if the current AP MLD response to the request is not TBD. Prefer the current AP MLD does not respond to the context
       - A: We agreed on adding more information on the later proposals. So, if there is another condition if the non-AP MLD is requesting to transmit, it can be seen
       - C: Can you think of a context where the non-AP MLD request is rejected and the AP will send the context
       - A: Agree
       - C: When you are discussing about this particular framework, are we talking the context transfer as a part of preparation phases or execution phases?
       - A: This can be done in preparation phase to minimize the delay or it can be done all in execution phase
       - C: Concerend about how the second bullet is worded. There is already some agreement on what happens. TBD is confusing
       - A: This is what is the agreed upon
       - C: In the PDT, there is request/response. If you are doing as a part of TBD request/response, it is not really a TBD anywhere. It would be good to clarify how it would be if it is related to the context transfer, indicated by non-AP MLD. So, you imply how the context transfer request would be responded to. Then modify the second bullet or remove the bullet as there may not be any value
       - Author chooses to remove the second bullet
       - C: since the reference to a context, remove the plural nature:
       - C: A motion has already passed on context transfer and negotiation. Can you clarify on the negotiation?
       - A: if there is some context that is not transferred then it will be on negotiation
       - If we do not have negotiation how does it work, do you assume the same capabilities will be with the APs.
       - Author does not agree on the change
    2. SP question will be run:
    3. **Modified Text: Do you agree to add the following text to the TGbn SFD?**
       - When a non-AP MLD is in the process of roaming from a current AP MLD to a target AP MLD, the non-AP MLD can request to the current AP MLD what context needs to be transferred from the current AP MLD to the target AP MLD.
       - What context can be requested is TBD
       - It applies when the current AP MLD and the target AP MLD support the context transfer

*Supporting documents: [24/1516, 242/0396, 24/830, 24/1883, 24/1890, 24/1746, 24/1851, 23/1416, 24/1898, 24/0052]*

* + 1. SP was run
       - A recorded vote has been requested. Records in Appendix
       - Result: **180Y, 14N, 57A**
  1. ***SP8 – Giovanni Chisci – Roaming ( No objection)***
     1. **Do you support the following for security in seamless roaming?**
        + when a non-AP MLD is in the process of roaming from the current AP MLD to a target AP MLD within the SMD, the same PMKSA, established with the SMD-ME, shall be used to protect communications with the current AP MLD and the target AP MLD
     2. No comments and no objections
  2. ***SP9 – Giovanni Chisci – Roaming ( No objection)***
     1. **Do you support the following for security in seamless roaming?**
        + when a non-AP MLD is in the process of roaming from the current AP MLD to a target AP MLD within the SMD, the same PTKSA, established with the SMD-ME, shall be used to protect communications with the current AP MLD and the target AP MLD

*Supporting list:[ 23/1416, 24/2072, 24/1894, 24/0052, 23/1884, 23/1937, 23/1996, 24/0083, 24/0101, 24/0396, 24/1812, 24/0398, 24/0412, 24/0655, 23/2157, 24/679, 24/1882, 24/1883],*

* + 1. No comment and no objection
  1. ***SP10 – Binita Gupta – Roaming (*142Y, 4N, 52A*)***
     1. Do you agree to add the following text to the TGbn SFD?
        + As part of seamless roaming procedure, a non-AP MLD can initiate a roaming preparation procedure with a target AP MLD by sending a TBD request frame to its current AP MLD.
        + The request frame indicates the set of links to be set up with the target AP MLD.
        + The request frame indicates the context to be transferred or renegotiated with the target AP MLD.
        + The current AP MLD sends a TBD response frame to the non-AP MLD to indicate the status (accept/reject) of the link setup.
        + If the link setup is accepted, the transferable context is transferred to the target AP MLD.
        + TBD on whether/how the renegotiation of context is performed in these request/response frames.

*Supporting list:[24/0052, 23/1884, 23/1937, 23/1996, 24/830, 24/0083, 24/0101, 24/0396, 24/1812, 24/0398, 24/0412, 24/0655, 23/2157, 24/679, 24/1425, 24/881, 24/1882, 24/1883, 23/1897, 24/0349, 24/0480, 23/1416, 24/1824]*

* + 1. Discussion:
       - C: The main text says TBD request and the bullet talks about request and response frames. Rearrange it
       - A: would like to keep it as is
       - C: Sometiems the link quality with the current AP an be bad and does it make sense to have it all
       - A: This is all part of the preparation step and we are building on top of it
       - C: In this case, the non-AP just negotiate roaming through the target
       - A: There is another SP on roaming through the target and we can work on the details
       - C: if indicated implies just the status or more than that?
       - A: It is not just one bit, it indicates and how it is indicated is also part of the signaling definition. If I use “include” may confuse that it is the final context and that there is no further negotiation
       - C: There has been some discussion on the reflector, and it does not have the changes discussed in the SP. If the procedure is being worked on with one target AP and it is not clear if it is with each target AP, which would be more inefficient
       - A: I am good with the discussion on the reflector but there has been other feedback that there should be more discussion on how multiple target APs would work
       - C: Will there be another SP and can we be concerned if we need more than one given that there is already one
       - A: We may need more discussion
       - C: Can we have a TBD?
       - A: Add one more bullet, “TBD on whether roaming preparation can be performed with multiple candidate target APs MLD”
       - C: If we are adding TBD, we should have a way to get there. If we want to have multiple candidates, it should be done in preparation phase
       - C: Agree with the comment. Weakens the straw poll. Indicate TBD candidate AP MLDs
       - A: Modify it to “TBD - Target AP MLD selection"
       - C; The PDT has some information on discovery phase
       - A: Let us not tie discovery with prepation
       - C: Can we change the chaging text to a complete sentence: TBD – multiple candidate target AP MLDs selection
       - A: Accepted
    2. SP being run
    3. **Modified question: Do you agree to add the following text to the TGbn SFD?**
       - As part of seamless roaming procedure, a non-AP MLD can initiate a roaming preparation procedure with a target AP MLD by sending a TBD request frame to its current AP MLD.
       - The request frame indicates the set of links to be set up with the target AP MLD.
       - The request frame indicates the context to be transferred or renegotiated with the target AP MLD.
       - The current AP MLD sends a TBD response frame to the non-AP MLD to indicate the status (accept/reject) of the link setup.
       - If the link setup is accepted, the transferable context is transferred to the target AP MLD.
       - TBD on whether/how the renegotiation of context is performed in these request/response frames.
       - TBD – multiple candidate target AP MLDs selection

*Supporting list:[24/0052, 23/1884, 23/1937, 23/1996, 24/830, 24/0083, 24/0101, 24/0396, 24/1812, 24/0398, 24/0412, 24/0655, 23/2157, 24/679, 24/1425, 24/881, 24/1882, 24/1883, 23/1897, 24/0349, 24/0480, 23/1416, 24/1824]*

* + 1. Result: **142Y, 4N, 52A**
  1. ***SP11 – Binita Gupta – Roaming ( No objections)***
     1. Do you agree to add the following text to 11bn SFD?
        + As part of seamless roaming procedure, a non-AP MLD in state 4 can perform roaming transition through a target AP MLD.
        + TBD on the conditions and details for performing roaming through target AP MLD

*Supporting list:[24/0398, 24/1812]*

* + 1. Discussion
       - C: Some examples given on where the SP is useful. Spoke in support
       - C: I am not sure if this with Seamless Roaming will be better than FT. In Seamless Roaming, we do preparation ahead. In this scenario, the non-AP has no time to prepare for the procedure
       - A: There are benefits with context transfer. We will define the details in the future
       - C: The SP text only mentions non-AP MLD in state 4 but it does not say with which AP MLD it is
       - A: That depends on the architecture and based on that we can define which
       - C: suggest adding “with the SMD-ME”
       - C: speaks in support
       - C: do current and target belong to the SMD-MD.
       - A: will add,” that is part of the SMD”
       - Modified question:
    2. Do you agree to add the following text to 11bn SFD?
       - As part of seamless roaming procedure, a non-AP MLD in state 4 with the SMD-ME can perform roaming transition through a target AP MLD.
       - TBD on the conditions and details for performing roaming through target AP MLD

*Supporting list:[24/0398, 24/1812]*

* + 1. No further comments and No objections

1. Submissions
   1. [24/1871](https://mentor.ieee.org/802.11/dcn/24/11-24-1871-01-00bn-erd-enhanced-reverse-direction-protocol-to-support-txop-sharing-and-low-latency-traffic-exchange.pptx) ERD: Enhanced Reverse Direction Protocol to Support TXOP Sharing … Behnam Dezfouli
      1. Discussion
         * C: In your intention to enhance RDG, what is your proposal? To have a new mode to prevent preemption
         * A: It can be applied for preemption. It can also be enhance TXS and C-TDMA and will improve those methods and reduce the overhead of the negotiation
         * Chair asks for any opinions on SP1? Is this meant to go into SFD or just into inquiry
         * A: Into SFD
         * Chair: Probably will need some more text. Provide the revised text for SP
2. Session in recess at 10:00

## Thursday January 15, 2025, AM2

1. The chair called the meeting to order at 10:31 PM Japan time
   1. The session is chaired by Xiaofei Wang, affiiation Interdigital
   2. The secretary of the meeting is Srinivas Kandala
   3. The chair introduced himself
2. Chair’s reminder on meeting and patent policies.
   1. The chair reminded attendees to register for the January 2025 meeting
   2. The chair reminded attendees of the patent polices.
   3. Chair called for essential patents, and none was indicated.
   4. The chair reminded attendees that participation is on an individual basis.
   5. The chair reminded attendees of IEEE meeting and copy right policies.
   6. Chair’s reminder on recording attendance through IMAT
3. The agenda is 11-24/2074r14.
   1. The chair reviews agenda
   2. A member requested addition of SP5-SP7 in PM1session
      1. The agenda is approved by unanimous consent by all attendees.
4. Proposed Draft Text (PDT) presentations
   1. [2067r1](https://mentor.ieee.org/802.11/dcn/24/11-24-2067-01-00bn-pdt-mac-uhr-bss-operation.docx) PDT MAC UHR BSS Operation Ming Gan [No objection]
      1. Document being walked through
      2. No comments on the document
      3. SP: Do you agree to incorporate 24/2067r2 into the next 11bn draft
      4. No discussion and no objection
   2. [2066r0](https://mentor.ieee.org/802.11/dcn/24/11-24-2066-00-00bn-pdt-mac-acknolwedgement-procedure.docx) PDT MAC Acknolwedgement Procedure Ming Gan [No objection]
      1. Document being walked through. Incorporated previously received comments
      2. No comments on the document
      3. SP: Do you agree to incorporate 24/2066r1 into the next 11bn draft
      4. No discussion and no objection
   3. [25/0102](https://mentor.ieee.org/802.11/dcn/25/11-25-0102-02-00bn-pdt-mac-mlme-for-mapc.docx) PDT-MAC-MLME-for-MAPC Brian Hart [No objection]
      1. Document being walked through. Incorporated previously received comments
      2. No comments on the document
      3. SP: Do you agree to incorporate 25/0102r2 into the next 11bn draft
      4. No discussion and no objection
5. SPs
   1. ***SP1 – Subir Das – Channel Access (* 65Y, 54N, 91A*)***
      1. Define an optional mechanism that enables priority channel access for non-AP STAs affiliated with non-AP MLDs that have EPCS activated for transmission of management frames prior to Robust Security Network Association (RSNA) if applicable otherwise prior to (Re)Association with the AP MLD?

Notes:

* + - * The AP MLD can control whether any non-AP MLDs with EPCS activated are allowed to use the feature

(e.g., enabling it when triggered to do so by an external entity in response to an emergency declaration)

* + - * The mechanism is TBD
      * Whether and/or how the mechanism is applied during each of the phases of the (re)association process is TBD
      * “EPCS activated” indicates non-AP MLDs that have been provisioned to use EPCS by a responsible external entity

*Supporting docs: [24/984r4]*

* + 1. Discussion
       - C: The first bullet is not exactly correct as AP does not have adequate visibility into “EPCS activated”
       - C: A client is being prioritized whether it has or not
       - (back and forth between the author and the commenter)
       - C: clarification question. Is this necessarily implying a solution where the traffic in BSS and the association frame for emergency would get higher priority than what they have and the rest of the traffic would be downgraded. Hoping still in scope to downgrade the existing traffic may be better
       - C: suggest adding “relatively” in front of “higher priority” in line 1
    2. **Modified question:**
    3. Define an optional mechanism that enables relatively higher priority channel access for non-AP STAs affiliated with non-AP MLDs that have EPCS activated for transmission of management frames prior to Robust Security Network Association (RSNA) if applicable otherwise prior to (Re)Association with the AP MLD?

Notes:

* + - * The AP MLD can advertize whether non-AP MLDs with EPCS activated are allowed to use the feature

(e.g., enabling it when triggered to do so by an external entity in response to an emergency declaration)

* + - * The mechanism is TBD
      * Whether and/or how the mechanism is applied during each of the phases of the (re)association process is TBD
      * “EPCS activated” indicates non-AP MLDs that have been provisioned to use EPCS by a responsible external entity

*Supporting docs: [24/984r4]*

* + 1. SP was run
       - A recorded vote has been requested. Records in Appendix
       - Result: **65Y, 54N, 91A**
  1. ***SP2 – Subir Das – Channel Access (*71Y, 55N, 120A*)***
     1. Define an optional mechanism that enables AP MLD to terminate or degrade lower priority communications in favor of higher priority communications.
        + Note: STAs whose communications are terminated or degraded could include non-EPCS and lower priority EPCS STAs
        + Note: Per use case requirement 2 and FCC Report and Order 22-36.

*Supporting docs: [24/984r4]*

* + 1. Author comes up with a **modified Text**, which reads:
    2. SP2: Do you agree to include the following in TGbn SFD:
       - Do you agree to define an optional access control mechanism to prioritize some EPCS STAs?
       - Note: Per use case requirement 2 and FCC Report and Order 22-36
    3. Discussion
       - C: Is this just for association for all the time
       - A: It is for all the time
       - C: How is it different from .11be as we have it previously
       - A: The STAs should have the knowledge that this level of priority and for EPCS and non-EPCS on how to do access control
       - C: Are there EPCS priorities?
       - A: No, it is all relative priorities
       - C: But if you have exclusive, during emergency, some required services may not get access
       - A: It has to coexist with 911 services and it has to coexist with others
       - C: We need to be ready to provide communication to the workers to finish their mission. We hae had similar feature implemented in cellular. Since Wi-Fi networks are ubiquitous it is important to have this and speak in support of the SP
       - C: Clarification question. In previous one it appeared to lower priority for the existing paraeters
       - A: Yes, it is lowering priority and allow the service provider to provide this service
       - C: Additional suggestion to the question. Adding the phrase, “w.r.t other EPCS STAs”
    4. **Modified Question:**
    5. Do you agree to include the following in TGbn SFD:
       - Do you agree to define an optional control mechanism to prioritize some EPCS STAs w.r.t other EPCS STAs.

Note: Per use case requirement 2 and FCC Report and Order 22-36.

*Supporting docs: [24/984r4]*

* + 1. Question called. SP was run
       - A recorded vote has been requested. Records in Appendix
       - **71Y, 55N, 120A**
  1. ***SP3 – Sherief Helwa – Miscellaneous: ( No objections)***
     1. **Do you agree with the following:**

Legend: Green: allowed; Orange: disallowed

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Allowed ICF to be transmitted by a non-AP STA?** | | | | | | | |
| **ICF** | **eMLSR** | **AP DPS** | **Solicited Coex** | **Unsolicited Coex** | **NPCA** | **C-TDMA (ICF)** | **Co-BF/Co-SR** |
| **RTS** | **N/A** | **Yes** | **N/A\*** | **No** | **No** | **N/A** | |
| **MU RTS** | **No** | **No** | **No** |
| **BSRP Trigger** | **No** | **No** | **No** |
| **BSRP GI3** | **Yes** | **Yes** | **Yes** |
| **Notes:**   * RTS solicits CTS frame; BSRP GI3 Trigger frame solicits an M-BA that is contained in a non-HT (dup) PPDU. * C-TDMA, C-BF, CSR transmission is to other APs. No expectations for non-AP STAs, unless due to other functionalities already enabled/supported by non-AP STA. * Solicited and Unsolicited Coex are part of DUO. * N/A means that either the non-AP STA is not allowed to send an ICF or the AP STA is not allowed to respond with ICR for this scheme/operation mode. * \*Note that DUO is only approved for non-AP STAs. So, a non-AP STA cannot send an ICF to an AP soliciting unavailability information in ICR (i.e., solicited CoEx).   **Acronyms: DPS: Dynamic Power Save, DUO: Dynamic Unavailability Operation, Unsolicited CoEx: Reporting unavailability in ICF, Co-BF: Coordinated beamforming, Co-SR: Coordinated Spatial Reuse, BSRP GI3: BSRP Trigger soliciting an M-BA in non-HT (dup) PPDU** | | | | | | | |

Supporting list: [24/1558, 24/1221, 24/1225, 24/1563]

* + 1. Discussion
       - C: Color will be removed from the text as it is not allowed in the standard
       - C: Do we need a question mark at the table
       - A: Question can be removed
       - C: Can the title be changed for the ICF sent by the non-AP STA addressing the associated AP
       - A: That is fine
       - C: Is this text informative or normative?
       - A: Yes, it is informative
       - C: Is this SP result to be included in SFD?
       - A: I will include it in the motion
       - C: Has ICF been defined? It sounds like a generic term or is it specifically UHR. Each feature has its own ICF, are we generalizing the definition?
       - C: Suggestion is to use UHR ICF
       - Chair: there are several comments; ICF is defined in C-TDMA and the table is normative
       - C: This is the summary of what is in the other table. Correct?
       - A: Yes, but it is normative
       - C: There are still some inconsistencies which are not clear, lists some – too fast to capture in the minutes
       - C: Remove “Note that”
       - C: Not sure I understand the difference between No and N/A in the table
       - No further comments.
    2. Modified table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Allowed UHR ICF to be transmitted by a non-AP STA (addressing the associated AP STA)** | | | | | | | |
| **ICF** | **eMLSR** | **AP DPS** | **Solicited Coex** | **Unsolicited Coex** | **NPCA** | **C-TDMA (ICF)** | **Co-BF/Co-SR** |
| **RTS** | **N/A** | **Yes** | **N/A\*** | **No** | **No** | **N/A** | |
| **MU RTS** | **No** | **No** | **No** |
| **BSRP Trigger** | **No** | **No** | **No** |
| **BSRP GI3** | **Yes** | **Yes** | **Yes** |
| **Notes:**   * RTS solicits CTS frame; BSRP GI3 Trigger frame solicits an M-BA that is contained in a non-HT (dup) PPDU. * C-TDMA, C-BF, CSR ICF transmission is to other APs. No expectations for non-AP STAs, unless due to other functionalities already enabled/supported by non-AP STA. * Solicited and Unsolicited Coex are part of DUO. * N/A means that either the non-AP STA is not allowed to send an ICF or the AP STA is not allowed to respond with ICR for this scheme/operation mode. * \*DUO is only approved for non-AP STAs. So, a non-AP STA cannot send an ICF to an AP soliciting unavailability information in ICR (i.e., solicited CoEx).   **Acronyms: DPS: Dynamic Power Save, DUO: Dynamic Unavailability Operation, Unsolicited CoEx: Reporting unavailability in ICF, Co-BF: Coordinated beamforming, Co-SR: Coordinated Spatial Reuse, BSRP GI3: BSRP Trigger soliciting an M-BA in non-HT (dup) PPDU** | | | | | | | |

* + 1. No objections for its inclusion
  1. ***SP4 – Sherief Helwa – Miscellaneous: (*95Y, 56N, 66A*)***
     1. Do you agree with the following:

Legend: Green: allowed; Yellow: to be discussed; Orange: disallowed

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Allowed ICF to be transmitted by an AP?** | | | | | | |
| **ICF** | **eMLSR** | **DPS** | **Solicited Coex** | **Unsolicited Coex** | **NPCA** | **C-TDMA (ICF/Announcement frame)** | **Co-BF/Co-SR** |
| **RTS** | **No** | **Yes** | **No** | **N/A\*** | **No** | **No** | **No** |
| **MU RTS** | **Yes** | **Yes** | **No** | **Yes** | **No** | **TBD** |
| **BSRP Trigger** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **TBD** |
| **BSRP GI3** | **TBD** | **TBD** | **Yes** | **TBD** | **Yes** | **TBD** |
| **Notes:**   * RTS solicits CTS frame; MU RTS Trigger solicits CTS frame; BSRP Trigger solicits a TB PPDU that contains QoS Null(s) if STA is not in DUO and STA is allowed to aggregated M-BA if STA is in DUO; BSRP GI3 Trigger frame solicits an M-BA that is contained in a non-HT (dup) PPDU. * Allocation frame for C-TDMA is MU-RTS TXS * Solicited and Unsolicited Coex are part of DUO. * \* Note that DUO is only approved for non-AP STAs. So, only a non-AP STA can send unavailability information in ICF.   **Acronyms: DPS: Dynamic Power Save; DUO: Dynamic Unavailability Operation; Co-BF: Coordinated beamforming; Co-SR: Coordinated Spatial Reuse; BSRP GI3: BSRP Trigger soliciting an M-BA in non-HT (dup) PPDU response** | | | | | | | |

Supporting list: [24/1558, 24/1221, 24/1225, 24/1563]

* + 1. Discussion
       - C: typo in the first bullet of the notes; aggregated should be aggregate
       - C: first note. Lot of details and very complicated
       - C: BSRP GI3, it is not clear this can trigger the BSR. A lot of complicated scenarios
       - A: This table contains lot of information and is not simple and addresses many situations
       - A: The ICR for BSRP GI3 is M-BA
       - C: Again, lot of information. Does one of the contributions address this?
       - A: Yes. 24/1558
       - C: Has the announcement frame for this been defined, passed a motion?
       - Several other editorial fixes done in a live manner
       - C: Can we have unsolicited coexistence for mobile AP?
       - A: This table only focuses on what is already approved
       - C: What is the purpose for the unsolicited coex?
       - C: It wouild be good to have a column for unsolicited coexistence is good as a placeholder
       - C: Is it ok to add a note “For mobile AP, it is TBD for unsolicited coexistence”
       - A: This table is only for what is already approved
       - C: Several inconsistencies in color compared with the previous table pointed out and fixed. Removed the text in parenthesis
       - Straw Poll will be run on the table with the question:
    2. Do you agree to add to the TGbn the table shown in the following table?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | * + 1. **Allowed ICF to be transmitted by an AP?** | | | | | | |
| * + 1. **ICF** | * + 1. **eMLSR** | * + 1. **DPS** | * + 1. **Solicited Coex** | * + 1. **Unsolicited Coex** | * + 1. **NPCA** | * + 1. **C-TDMA (ICF/Announcement frame)** | * + 1. **Co-BF/Co-SR** |
| * + 1. **RTS** | * + 1. **No** | * + 1. **Yes** | * + 1. **No** | * + 1. **N/A\*** | * + 1. **No** | * + 1. **No** | * + 1. **No** |
| * + 1. **MU RTS** | * + 1. **Yes** | * + 1. **Yes** | * + 1. **No** | * + 1. **Yes** | * + 1. **No** | * + 1. **TBD** |
| * + 1. **BSRP Trigger** | * + 1. **Yes** | * + 1. **Yes** | * + 1. **Yes** | * + 1. **Yes** | * + 1. **Yes** | * + 1. **TBD** |
| * + 1. **BSRP GI3** | * + 1. **TBD** | * + 1. **TBD** | * + 1. **Yes** | * + 1. **TBD** | * + 1. **Yes** | * + 1. **TBD** |
| * + 1. **Notes:**     2. RTS solicits CTS frame; MU RTS Trigger solicits CTS frame; BSRP Trigger solicits a TB PPDU that contains QoS Null(s) if STA is not in Coex mode and STA is allowed to aggregated M-BA if STA is in Coex mode; BSRP GI3 Trigger frame solicits an M-BA that is contained in a non-HT (dup) PPDU.     3. Allocation frame for C-TDMA is MU-RTS TXS     4. Solicited and Unsolicited Coex are part of DUO.     5. \* Note that the Coex Mode (DUO) is only approved for non-AP STAs. So, only a non-AP STA can send unavailability information in ICF.     6. **Acronyms: DPS: Dynamic Power Save; DUO: Dynamic Unavailability Operation; Co-BF: Coordinated beamforming; Co-SR: Coordinated Spatial Reuse; BSRP GI3: BSRP Trigger soliciting an M-BA in non-HT (dup) PPDU response** | | | | | | | |

* + 1. SP was run
       - A recorded vote has been requested. Records in Appendix
       - Result: **95Y, 56N, 66A**
  1. ***SP5 – DongJu Cha – NPCA (Deferred)***
     1. Do you agree to include the following into the 11bn SFD?
        + NPCA AP that obtains a TXOP on the NPCA Primary channel shall ensure that the TXOP ends before the end time of OBSS activity that makes the BSS Primary channel busy minus the maximum channel switch back delay among the NPCA AP and NPCA non-AP STA(s) as TXOP responder(s)

*Supporting documents: [23/1913]*

* + 1. Deferred
  1. ***SP6 – DongJu Cha – NPCA (*105Y, 39N, 65A*)***
     1. Do you agree to include the following into the 11bn SFD?
        + NPCA AP that has switched to the NPCA Primary channel shall be switched back to the BSS Primary channel before the expected duration of the OBSS activity that makes the BSS Primary channel busy ends

*Supporting documents: [23/1913]*

* + 1. Discussion
       - C: I agree that there should be a mechanis when to switch back but I have a presentation as there are cases NPCA has to extend the switchback time. While I support it, I wouild like it to be deferred
       - A: The reason is to tae the legacy STA into consideration. If the NPCA extends to the duration legacy channels may have issues
       - C: I do agree that for most of the time the operation should be like this, but for low-latency traffic it is good to build some exceptions
       - C: Similar comments. Agree with the SP direction but not fully. We also have another presentation and would like more discussion and defer it
       - C: I restricted this to NPCA AP because the legacy STA can exist longer then the non-AP STA cannot do anything in the primary
    2. SP was run
       - A recorded vote has been requested. Records in Appendix
       - Result: **105Y, 39N, 65A**
  1. ***SP7 – Binita Gupta– Bandwidth Expansion (*57Y, 99N, 84A)**
     1. Define in 11bn a mechanism for dynamic bandwidth expansion (DBE) that enables a UHR AP to modify (expand/reset) its Dynamic UHR operating BSS bandwidth for UHR STAs that support the DBE operation.
        + The dynamic bandwidth change is performed at the management frame level, and the AP shall stay on the expanded bandwidth for a duration that is at least multiple beacon intervals.
        + The primary channel does not change during the DBE operation.
        + The mechanism defines new signaling such that associated legacy STAs and UHR STAs that don’t support the DBE operation ignore the signaling when the UHR AP operates with expanded bandwidth.
        + The mechanism does not impact the performance of STAs that do not support or enable DBE.

*Supporting list: 24/088, 24/815*

* + 1. Discussion:
       - C: There have been several questions on this presentation, with the primary channel unchanged. Not clear how this will happen. Also, how this affects the other features such as NPCA and DSO. All these interactions need to be studied and request the SP to be deferred
       - A; In the second presentation we mentioned that secondary channel can change and think that these can interwork with other features. Details can be worked through. This is a high-level straw poll. This is a key feature for enterprise deployments opportunistically to use wider bandwidths of 160 and 320 MHz. We see a strong usage of the enterprise deployments
       - C: Share the concerns expressed by another commenter on DSO and NPCA. We may need calibration and may become uncontrolled OMI changes
       - A: This is a long-term change and there are at least multiple beacon intervals and we are not saying that bandwidth expansion happens in a short time
       - Can you clarify the first bullet?
       - A: It just means that it will be done in management frame with several beacon delay
       - C: It doesn’t come that way., Can you change it?
       - A: Change in the first bullet, “the dynamic bandwidth change is performed” to “The dynamic bandwidth change is signaled using management frames”
       - C: This will help the enterprise
    2. **Modified text:**
    3. Define in 11bn a mechanism for dynamic bandwidth expansion (DBE) that enables a UHR AP to modify (expand/reset) its Dynamic UHR operating BSS bandwidth for UHR STAs that support the DBE operation.
       - The dynamic bandwidth change is signaled using management frames, and the AP shall stay on the expanded bandwidth for a duration that is at least multiple beacon intervals.
       - The primary channel does not change during the DBE operation.
       - The mechanism defines new signaling such that associated legacy STAs and UHR STAs that don’t support the DBE operation ignore the signaling when the UHR AP operates with expanded bandwidth.
       - ◦The mechanism does not impact the performance of STAs that do not support or enable DBE.

*Supporting list: 24/088, 24/815*

* + 1. SP was run
       - Result: **57Y, 99N, 84A**
  1. The next set of SPs are the ones that are deferred from Wednesday PM2 session
  2. ***SP5 – Mohamed Abouelseoud– Low Latency: (*192Y, 10N, 29A*)***
     1. The SP was mislabeled
     2. This was deferred from Do you support to include the following in SFD?
        + Define or improve an existing mechanism so that a non-AP STA that is a TXOP responder can indicate its buffer low latency traffic needs (for traffic from the TxOP responder to the TxOP Holder) in a control response frame. The TXOP holder should consider the indication in determining subsequent actions. Subsequent actions related to this indication are out of the scope of the standard.
        + Note: whether an AP can Indicate its low latency needs is TBD

*Supporting documents : 24/0389r0, 24/168r0,24-0416/r1, 24-0442/r3, 24-1195/r1, 23/885, 24/264 23/1886 24/1156, 24/1871r1, 24/1074, 23/1909r1, 24/131r0,*

* + 1. C: Concern on this SP. The SP says low-latency needs. This term is not clear. Is it current need or a future need? Suggest to add buffer traffic
    2. SP was run
       - A recorded vote has been requested. Records in Appendix
       - Result: **192Y, 10N, 29A**
  1. ***SP5 – Dmitry Akhmetov – Channel Access: (*150Y, 14N and 70A)**
     1. **Do you agree to define HIP EDCA in UHR where a STA with Low Latency traffic may be allowed, based on TBD conditions, to send a Defer Signal (it is TBD if it is CTS frame or RTS) to start a protected short contention for pending LL data**
        + Conditions to be allowed to send a Defer Signal is TBD
        + STA in HiP EDCA always use RTS/CTS as initial frame exchange and retry.
        + Duration of protected short contention is TBD.
        + Access parameters (AIFSN, CW and the expansion rules) used to transmit the Defer Signal are TBD. The retry count where the Defer Signal is allowed to be sent is TBD
        + Contention parameters for the protected short contention are TBD. The STAs that transmitted a Defer Signal but did not win the protected short contention will initiate a new retry.
        + Low Latency traffic is treated as AC\_VO traffic. Other cases are TBD.
        + The solution would provide control on the degree of collisions that may occur while using it and, allows for autonomous randomness or/and controlled by the AP
        + No new mandatory synchronization requirement on STA side
        + HIP EDCA is used by the STAs in a BSS only when this feature is enabled by the AP

*Supporting doc: 24/1144r1*

* + 1. In the agenda document, this SP is shown as SP5
    2. Discussion
       - C: (Missed some comments)
       - C: Is the SP trying to define two Defer Signals
       - A: No, only one will be chosen
       - C: Change the parenthesis content to “**(it is TBD if it is CTS frame or RTS)” – corrected text is shown above**
       - C: Agree with the change
    3. SP was run
       - A recorded vote has been requested. Records in Appendix (the filename has SP6)
       - Result: **150Y, 14N and 70A**
  1. ***SP5 – Shawn Kim – NPCA: (*70Y, 43N, 90A*)***
     1. **Do you agree to add the following to the TGbn SFD?**
     2. NPCA Initial Control Frame shall explicitly indicate that it is transmitted via the NPCA primary channel

*Supporting document: [24/0670, 24/1842r2]*

* + 1. In the agenda document, this SP is shown as SP5
    2. Discussion
       - C: This is covered by a previous motion that passed. The initial control frame will be a trigger frame
       - A: The motion is for a trigger transmitted by the AP
       - C: This text covered by already passed motion and should be updated
    3. **Modified the question**: “NPCA Initial Control Frame transmitted by non-AP STA shall explicitly indicate that it is transmitted via the NPCA primary channel”
       - C: When it comes to non-AP STA it cannot send a trigger frame, so what is the intention here
    4. Fiurther discussion
       - C: Similar concern. Why should the indication be made?
       - A: The intention is to make sure the AP is responding on the NPCA primary channel
    5. SP was run
       - Result: **70Y, 43N, 90A**
  1. ***SP6 – Shawn Kim – NPCA: (Deferred)***
     1. **Do you agree to add the following to the TGbn SFD?**
        + An AP operating on the NPCA primary channel does not respond to the frame transmitted via the BSS primary channel
        + *Supporting document: [24/0670]*
     2. SP **Deferred**
  2. ***SP7 – Hongwon Lee – Coex: (No objection)***
     + - **Do you agree to include the following into the 11bn SFD?**
       - In response to BSRP Trigger frame transmitted by a non-AP STA as the TXOP holder, an AP transmits a Multi-STA BlockAck frame
       - Block Ack Starting Sequence Control subfield and Block Ack Bitmap subfield are not present if there is no any feedback information
       - Values of Ack Type and TID are TBD

*Supporting documents: [24/1464]*

* + 1. C: Suggestions to modify to: Do you agree to include the following into the 11bn SFD?
       - In response to BSRP Trigger frame as an ICF transmitted by a non-AP STA as the TXOP holder, an AP transmits a Multi-STA BlockAck frame
       - Whether Block Ack Starting Sequence Control subfield and Block Ack Bitmap subfield are present or not is TBD
       - Values of Ack Type and TID are TBD
    2. No objection
  1. ***SP8 – Dibakar Das– TXOP sharing: (*144Y, 27N, 42A*)***
     1. **Do you agree to define a mechanism as part of the procedure of time sharing during a TXOP (e.g. C-TDMA, TXS, …) to support fairness to neighboring STAs (APs and non-APs)?**
     2. Exact mechanism is TBD

*Supporting documents: 11-24-93, 11-25-86r0*

* + 1. Discussion
       - C: there is another proposal and would like to defer after more discussion after the presentation of the proposal
       - A: this is a high-level SP and don’t think anything is precluded
       - C: Speaks in favor of the SP
       - C: Can we make the changes per what is in the SP – Do you agree to define a mechanism to support fairness to neighoubing STAs(APs and non-APs)?
       - A: Not sure what it means. Needs more details
       - (comment was made, unable to follow)
       - C: Can you clarifying if the neighboring STAs are legacy or UHR
       - A: Legacy
    2. SP was run:
       - Recorded SP
       - Result: **144Y, 27N, 42A**
  1. ***SP9 – Jay Yang – Roaming: (Deferred)***
     1. Do you support to define a mechanism in 11bn to allow a non-AP MLD to probe neighboring AP MLD(s) through the current AP MLD?
        + by which the non-AP MLD may obtain the roaming capability of the neighboring AP MLDs, other functionalities are TBD.
        + Note1. The neighboring AP MLD and the current AP MLD are in the same ESS.
        + Note2. roaming capability may include the capability of the context renegotiation, the context transfer and data forwarding.

*Supporting list: 23/1897r0, 24/1879r0,24/1476r2*

* + 1. Discussion
       - C: We need some information for ranking but we don’t want to ask for all this and the AP can rely on less communication
       - A; Here, we don’t mention which element will carry this information. Maybe it is RNR or some other place
       - C: The SP is suggesting something more is already there and it is not clear what is required and request the author to work on the scope of this
    2. Author agreed to defer. **Deferred**
  1. ***SP10 – SunHee Baek – Roaming: (No objection)***
  2. **Do you agree to add the following text to the TGbn SFD?**
     1. An AP that requests protection for its R-TWT schedule(s) via negotiations shall include information carried in TBD subfields of the Broadcast TWT Parameter Set field corresponding to each R-TWT schedule being negotiated in a TBD individually addressed Management frame that it transmits to the other AP.

*Supporting list: 24/160, 23/1916, 23/355, 24/1346, 24/1220, 24/407*

* + 1. Discussion
       - C: If the two APs have out-of-band communication, they may prefer to send over the wired link and not the wireless link. This may be ok but there is a major alternative that needs to be considered
       - C: Insert, “For negotiations over the wireless medium” at the beginning of the bullet to read, “For negotiations over the wireless medium, An AP that requests protection for its R-TWT schedule(s) via negotiations with another AP shall include information carried in TBD subfields of the Broadcast TWT Parameter Set field corresponding to each R-TWT schedule being negotiated in a TBD individually addressed Management frame that it transmits to the other AP.
       - C: Since these are all TBD fields, it is not a “shall” but a “may”
       - C: Don’t agree with may, as it may bring the question of what other mechanisms are there.“shall” is required and “may” is not right
       - Numerous other suggestions, rejected by th eauthor. Finally settles on removing “shall include” and replace with “includes”
       - C: “includes” or “shall include” means at some point there will be an IE with this information. Is that correct understanding and would like “shall include” but ok with the current draft
       - C: Change “TBD subfields” to “TBD fields”
    2. Modified text
    3. Do you agree to add the following text to the TGbn SFD?
       - For negotiation over the wireless medium, an AP that requests protection for its R-TWT schedule(s) via negotiations with another AP includes information carried in TBD fields of the Broadcast TWT Parameter Set field corresponding to each R-TWT schedule being negotiated in a TBD individually addressed Management frame that it transmits to the other AP.

Supporting list: 24/160, 23/1916, 23/355, 24/1346, 24/1220, 24/407

* + 1. No objection to the SP

1. **Submissions –Low Latency**
   1. [24/1870](https://mentor.ieee.org/802.11/dcn/24/11-24-1870-00-00bn-on-the-scalability-and-overhead-of-utilizing-polling-for-soliciting-sta-s-needs-for-uplink-low-latency-transmission.pptx) On the Scalability and Overhead of Utilizing Polling for Soliciting … Behnam Dezfouli
   2. C: audio was not good enough to take minutes
2. Session adjourned at 12:30 PM

# Appendix: Recorded SP Results

The appendix contains the detailed voting records for the requested recorded SP.

## Monday, January 13, 2025, PM1

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## Tuesday, January 14, 2025, AM2

|  |  |  |
| --- | --- | --- |
| **SP** | **Straw Poll Question** | **Recorded count log** |
| PDT Roaming | Do you agree to incorporate the proposed text changes in 11-24/1881r7 to the latest TGbn draft? |  |
| SP1 | Do you agree to define HIP EDCA in UHR where a STA with Low Latency traffic may be allowed, based on TBD conditions, to send a Defer Signal (e.g. CTS frame or RTS) to start a protected short contention for pending LL data   * Conditions to be allowed to send a Defer Signal is TBD * STA in HiP EDCA always use RTS/CTS as initial frame exchange and retry. * Duration of protected short contention is TBD. * Access parameters (AIFSN, CW and the expansion rules) used to transmit the Defer Signal are TBD. * The retry count where the Defer Signal is allowed to be sent is TBD * Contention parameters for the protected short contention are TBD. The STAs that transmitted a Defer Signal but did not win the protected short contention will initiate a new retry. * Low Latency traffic is treated as AC\_VO traffic. Other cases are TBD. * The solution would provide control on the degree of collisions that may occur while using it and, allows for autonomous randomness or/and controlled by the AP * No new synchronization requirement on STA side   *Supporting list: [24/1144r1]* |  |
| SP2 | Do you support adding the following to the 802.11bn SFD?   * Including low latency traffic notification in multi-AP coordination, to notify the presence of low latency traffic among APs (including UL LL and DL LL.   *Supporting document: 24/1145* |  |
| SP3 | Do you support adding the following to the 802.11bn SFD?   * In AP-to-AP TXOP sharing, TGbn defines a mechanism for the TXOP bandwidth expansion. * The primary channel of the sharing AP and the primary channel of shared AP can be either overlapped, or staggered.   *Supporting documents: 23/2211, 24/0850* |  |
| SP7 | Do you agree to include the following into the 11bn SFD?   * + - * In C-TDMA,C-BF and TBD other MAP schemes , the initiator AP and the responder AP may have different primary channels.       * The primary channel of the responder AP shall be within the BSS operating channel bandwidth of the initiator AP and shall not be the punctured subchannels announced in the EHT Operation element by the initiator AP, and vice versa.   *Supporting documents: [24/838r0, 24/1075r1]* |  |

## Tuesday, January 14, 2025, PM1

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| **SP** | **Straw Poll Question** | **Recorded count log** |
| PDT MAC Coexistence | Do you agree to incorporate 11-24/2040r6 in the next TGbn Draft |  |
| PDT MAC PowerSave | Do you agree to incorporate 11-24/2016r3 into the next TGbn Draft |  |
| PDT-MAC-NPCA | Do you agree to incorporate 11-24/176/r23 into the next TGbn Draft |  |
| SP1 | Do you agree to have a mechanism to protect the management frames between two APs during M-AP agreement negotiation procedure?   * + - * The mechanism is TBD   *Supporting documents: 23/1836r3 , 24/1693r0* |  |
| SP4 | Do you support to optionally include an QoS Map element within the SCS Response frame transmitted by the AP MLD to update the DSCP-to-UP mapping for UL if the following conditions are true?   * + - * the TID and the User Priority subfields of the Control Info field in the associated QoS Characteristics element are set to different values within 0~7       * the AP MLD and the non-AP MLD supports the QoS map operation   *Supporting documents: 24/2123r0* |  |

## Tuesday, January 14, 2025, PM2

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| **SP** | **Straw Poll Question** | **Recorded count log** |
| PM1 SP5 | Do you agree that the I-FCS in trigger frame is incuded as part of 2 contiguous User Info fields known as I-FCS User Info fields  *Supporting documents: 23/1873r0, we/2003r1, 25/0144, 24/497r0, 24/1129r1* |  |
| PM1 SP6 | Do you agree that the AID in these 2 I-FCS User Info fields have the same special AID12 values of 2009  *Supporting documents: 23/1893r0, 25/144, 24/497r0 and 24/1129r* |  |
| SP6 - CTDMA | Do you agree that:   * + - * The maximum time allocated by a sharing AP in a TXOP to all shared AP for CTDMA is not larger than the TXOP limit it advertised for the minimum between AC\_VI TxOP limit and the TxOP Limit of the AC it obtains the TxOP with to its associated STAs.   If TXOP limit for an AC is 0, there is no CTDMA in a TXOP obtained using that AC.   * + - * The sharing AP shall use at least a TBD portion of the TXOP it shares for data communication with its own associated STAs.   Note: similar consideration will apply for TXS mode 2  *Supporting list: 11-24-0093* |  |
| SP7 – QoS | Do you agree that UHR should allow more than two TIDs to be mapped to high priority ACs (i.e., VO or VI)?   * + - * Upto one TID for each AC currently assigned to BE and BK are remapped.       * Those TIDs may be used dynamically (e.g., following an SCS flow setup).   *Supporting list: 24/463r1, 24/1899, 23/0069* |  |

## Wednesday January 15, 2025, AM2

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| **SP** | **Straw Poll Question** | **Recorded count log** |
| SP3 - Security | Do you support the following in 802.11bn?   * + - * Define Trigger frame protection       * Define BAR frame protection for Compressed BAR and Multi-TID BAR variants       * Define BA frame protection for Multi-STA BA variants   *Supporting documents: [23/1995r0, 23/1933r0, 23/1914r2, 23/1915r1, 23/2001r2, 23/312r0, 23/286r0, 23/352r1, 23/1102r0, 24/535r0, 24/497r0, 24/547r2]* |  |
| SP4 - DSO | Do you agree that TGbn will define a mechanism where a non-AP STA can be allocated resources dynamically (i.e., on a per-TXOP basis) outside of its current operating bandwidth and within the associated AP’s BSS bandwidth?  *Supporting list: [11-22/2204, 11-23/2141 (Sindhu & Shubho), 11-23/843 (Liuming), 11-23/1496 (Kaiying), 11-23/1892 (Gaurang), 11-23/1913 (DongJu), 11-23/1935 (Liwen), 11-23/2027 (Vishnu), 11-24/591 (Morteza), 11-24/1157r1 (Hank Hyeonjun Sung)]* |  |
| Motion to change the agenda | Motion: the agenda by adding a modified SP4a after SP4 in Slide 97 |  |
| SP in 24/1545 | Do you agree to add the following text to the 11bn SFD: 11bn shall define a mechanism for a non-AP STA to obtain granular regulatory transmit power limits? |  |

## Thurssday January 16, 2025, AM1

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| **SP** | **Straw Poll Question** | **Recorded count log** |
| SP6 - Miscellaneous | **Do you agree to add to the 11bn SFD:**   * + - * For the following features, if an AP supports the feature, then it shall accept a request from an associated STA to enable or disable the feature on its (STA) side         + Dynamic unavailability operation         + Dynamic power save   Supporting list: [??] |  |
| SP7 – Roaming | Do you agree to add the following text to the TGbn SFD?   * + - * When a non-AP MLD is in the process of roaming from a current AP MLD to a target AP MLD, the non-AP MLD can request to the current AP MLD what contexts need to be transferred from the current AP MLD to the target AP MLD.       * What contexts can be requested is TBD       * It applies when the current AP MLD and the target AP MLD support the context transfer   *Supporting documents: [24/1516, 242/0396, 24/830, 24/1883, 24/1890, 24/1746, 24/1851, 23/1416, 24/1898, 24/0052]* |  |

## Thursday January 16, 2025, AM2

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| **SP** | **Straw Poll Question** | **Recorded count log** |
| SP1 – Channel Access | Define an optional mechanism that enables relatively higher priority channel access for non-AP STAs affiliated with non-AP MLDs that have EPCS activated for transmission of management frames prior to Robust Security Network Association (RSNA) if applicable otherwise prior to (Re)Association with the AP MLD?  Notes:   * + - * The AP MLD can advertize whether non-AP MLDs with EPCS activated are allowed to use the feature   (e.g., enabling it when triggered to do so by an external entity in response to an emergency declaration)   * + - * The mechanism is TBD       * Whether and/or how the mechanism is applied during each of the phases of the (re)association process is TBD       * “EPCS activated” indicates non-AP MLDs that have been provisioned to use EPCS by a responsible external entity   *Supporting docs: [24/984r4]* |  |
| SP2 – Channel Access | Do you agree to include the following in TGbn SFD:   * + - * Do you agree to define an optional control mechanism to prioritize some EPCS STAs w.r.t other EPCS STAs.   Note: Per use case requirement 2 and FCC Report and Order 22-36.  *Supporting docs: [24/984r4]* |  |
| SP4 – Miscellaneous | Do you agree to add to the TGbn the table shown |  |
| SP6 - NPCA | Do you agree to include the following into the 11bn SFD?   * + - * NPCA AP that has switched to the NPCA Primary channel shall be switched back to the BSS Primary channel before the expected duration of the OBSS activity that makes the BSS Primary channel busy ends   *Supporting documents: [23/1913]* |  |
| SP7 – Bandwidth Expansion | Define in 11bn a mechanism for dynamic bandwidth expansion (DBE) that enables a UHR AP to modify (expand/reset) its Dynamic UHR operating BSS bandwidth for UHR STAs that support the DBE operation.   * + - * The dynamic bandwidth change is signaled using management frames, and the AP shall stay on the expanded bandwidth for a duration that is at least multiple beacon intervals.       * The primary channel does not change during the DBE operation.       * The mechanism defines new signaling such that associated legacy STAs and UHR STAs that don’t support the DBE operation ignore the signaling when the UHR AP operates with expanded bandwidth.       * The mechanism does not impact the performance of STAs that do not support or enable DBE.   *Supporting list: 24/088, 24/815* |  |
| SP5 – Latency | Do you support to include the following in SFD?   * + - * Define or improve an existing mechanism so that a non-AP STA that is a TXOP responder can indicate its buffer low latency traffic needs (for traffic from the TxOP responder to the TxOP Holder) in a control response frame. The TXOP holder should consider the indication in determining subsequent actions. Subsequent actions related to this indication are out of the scope of the standard.       * Note: whether an AP can Indicate its low latency needs is TBD   *Supporting documents : 24/0389r0, 24/168r0,24-0416/r1, 24-0442/r3, 24-1195/r1, 23/885, 24/264 23/1886 24/1156, 24/1871r1, 24/1074, 23/1909r1, 24/131r0,* |  |
| SP5 – Channel Access | Do you agree to define HIP EDCA in UHR where a STA with Low Latency traffic may be allowed, based on TBD conditions, to send a Defer Signal (it is TBD if it is CTS frame or RTS) to start a protected short contention for pending LL data   * + - * Conditions to be allowed to send a Defer Signal is TBD       * STA in HiP EDCA always use RTS/CTS as initial frame exchange and retry.       * Duration of protected short contention is TBD.       * Access parameters (AIFSN, CW and the expansion rules) used to transmit the Defer Signal are TBD. The retry count where the Defer Signal is allowed to be sent is TBD       * Contention parameters for the protected short contention are TBD. The STAs that transmitted a Defer Signal but did not win the protected short contention will initiate a new retry.       * Low Latency traffic is treated as AC\_VO traffic. Other cases are TBD.       * The solution would provide control on the degree of collisions that may occur while using it and, allows for autonomous randomness or/and controlled by the AP       * No new mandatory synchronization requirement on STA side       * HIP EDCA is used by the STAs in a BSS only when this feature is enabled by the AP   *Supporting doc: 24/1144r1* |  |

**References:**