X`IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB 200 Comment Resolution for Subclause 9.20.5.6 | | | | |
| Date: 2014-MM-DD | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Chao-Chun Wang | MediaTek Inc. |  |  | chaochun.wang@mediatek.com |

Abstract

This document provides resolutions for CID 1495, 1496, 1497, 1498, 1499, 1500, 1501 and

CID 2267, 2268, 2269

The changes are in the following subclause: 9.20.5.6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Changes** |
| 1495 | 9.20.5.6 | 176.16 | 16 | what does "then" mean in the following sentence? Does it mean "after"? on that case the sentence is technically wrong. STAs can not receive a frame when they sleep: "If the Access Restricted to Paged STAs Only bit in RPS element is set to 0 and an RA frame is roadcasted at RAW Start Time, **then** the STAs within the RAW Group may wake up to receive this frame in order to learn their assigned RAW slots for their UL and DL traffic and corresponding SlotStart Offsets." | re-word the sentence to be more clear and technically correct |
| 1496 | 9.20.5.6 | 176.17 | 17 | when the **"may"** verb is used, there will be confusion on the RAW slots if some of the STAs don't wake up to receive the RA frame in the following sentence: " the STAs within the RAW Group may wake up to receivethis frame in order to learn their assigned RAW slots for their UL and DL traffic and corresponding SlotStart Offsets." | fix the procedure or remove the "RA" frame from the draft |
| 1497 | 9.20.5.6 | 176.18 | 18 | this sentence has repeated two times in the same subclause: "If the Access Restricted to Paged STAs Only bit in RPS element is set to 1 and an RA frame is broadcasted at RAW Start Time, only the paged STAs within the RAW Group may wake up to receive this frame in order to learn their assigned RAW slots for their DL traffic and corresponding Slot Start Offsets." | merge the sentences |
| 1498 | 9.20.5.6 | 176.22 | 22 | it is not clear from the following sentence when the STA may go to sleep: "The STAs may go back to sleep and wake up at their assigned RAW slots." | as in the comment |
| 1499 | 9.20.5.6 | 176.23 | 23 | "In an assigned RAW slot, a STA may wait for DL traffic if the UL/ DL bit within the Slot assignment field ofthe RA frame is set to 0. " | indicate for how long does the STA should wait |
| 1500 | 9.20.5.6 | 176.24 | 24 | " If the bit is set to 1, the STA starts to access the channel based on the method illustrated for RAW operation (see 9.20.5.1), indicating that the AP has no DL buffered data for the STA". what if AP has DL traffic but it does not want to provide the STA with DL traffic at the beginning of slot? Or it prefers using Speed Frame Exchange? Why setting that bit means AP doesn't have traffic? | Remove the "indicating..." part |
| 1501 | 9.20.5.6 | 176.27 | 27 | "If a RAW slot is assigned to a group of STAs, the STAs may wait to receive DL traffic from the AP." what does "may" mean here? Should they wait or they can access. This does not define a concrete behaviour. If one STA access the rest will not be able to receive the DL. | Either change the "may" to "shall" or remove the sentence. |

**Discussion:**

The commenter of CID 1495, 1496, 1497, 1498, 1499, 1500, 1501, Clause 9.20.5.6, “RAW Operation with Resource Allocation frame” concerns the description of the clause is not clear. The main concern is the behaviour of the operation is not complete. Since the comments are relatively general, they are not addressed individually. The revise the text below is to address all the CIDs together.

**Proposed Response:**

AGREE:

9.20.5.6 clause is revised to address the following comments.

CID 1495, 1496, 1497, 1498, 1499, 1500, 1501

**Proposed Resolution Text:**

***Instruct the editor to revise Clause 9.20.5.6, “RAW Operation with Resource Allocation frame” as proposed below.***

## 9.20.5.6 RAW Operation with Resource Allocation frame

An AP its intention to transmit a Resource Allocation (RA) frame by setting the Bit 1 of the RAW Type Options field in the RAW control subfield of the RAW assignment subfield of the RPS element frame to 1. *[CID 1494, 1495, 1496, 1497]*

The RA frame is broadcasted to intended STAs indicated by the RPS element.

An AP shall schedule the Resource Allocation frame as the first frame to be transmitted at the beginning of the RAW following the channel access rules. The beginning of the RAW is further defined in the RAW start time subfield of the RAW assignment subfield of the RPS element.

If the AP detects the channel is busy, AP shall defer the transmission of the RA frame till the channel is free. Since the pre-allocated RAW duration information in the RPS frame is shorten by the delay transmission of the RA frame, the AP and STA shall check the transmission time of the allocated slot against the end of RAW period. If the transmission time is later than the end of RAW period, the AP and STA shall discard the information of the RAW and follow the channel access rules defined in the specification.

The AP assigns a RAW slot to either an individual STA indicated by the Partial AID subfield or a group of STAs indicated by the Group ID subfield within the Slot Assignment field of the RA frame.

An intended STA identified by the RPS element should wake up before the RAW start time indicated in the RAW start time subfield of the RAW assignment subfield of the RPS element to receive the RA frame. The STA shall not access the medium during its assigned RAW with the RA indication if

An intended STA identified by the RPS element of a RAW learns its assigned time slots for both uplink and downlink service periods according to the slot assignment subfield of the RA. The STA should be awake before the start of the slot time assign to it. In an assigned RAW slot, a STA shall not access the channel for transmission if the UL/ DL bit of the Slot Assignment field of the RA frame is set to 0. If the bit is set to 1 indicating that the AP has no DL buffered data for the STA the paged or unpaged, STA allows to access the channel based on the method illustrated for RAW operation (see 9.20.5.1). *[CID 1498, 1499, 1500, 1501]*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Changes** |
| 2267 | 9.20.5.6 | 176.07 | 7 | In the RPS element section, could not find the Resource Allocation Frame Presence Indication subfield within Options subfield? The closest text could be Table 8-191a--Interpretation of RAW Type and RAW Type Options, but it does not contain anything about the Resource Allocation Frame Presence indication subfield. | Please clarify the text in line 7 page 176 to address the issue identified by this comment. |
| 2268 | 9.20.5.6 | 176.03 | 3 | The TIM element and RSP element are needed for the RAW operation, regardless of the presence of the Resource Allocation frame. Therefore, did not see any additional benefits of using Resource Allocation frame comparing to the RPS element and TIM element mapping as shown in Figure 9-24b and 9-24c w.r.t. the RAW slot assignment. Why do we need the Resource Allocation frame? | delete the Resource Allocation frame and all relevant text. |
| 2269 | 9.20.5.6 | 176.22 | 22 | Is RAW used for UL channel access only or both UL DL? If it is for both UL and DL, then the text in paragraph in line 33 page 171 should be revised. If it is for UL only, then why the text in line 22 page 176 should be revised. | Please clarify. |

**Discussion:**

CID 2267: There are similar comments, 2750 and 2751 and were addressed already.

CID 2268: The slot allocation information is carried in the RA frame. Combining TIM and RPS are not enough.

CID 2269: RAW ca be used for both uplink and downlink transmission. The clause 9.20.5.1 fails to mention the ability for downlink transmission. It should be corrected.

**Proposed Response:**

CID 2267: Duplicate, 2750 and 2751

CID 2268: Reject

CID 2269: Re-assign to the owner whose is resolving CIDs for clause 9.20.5.1.

**Proposed Resolution Text:**

N/A