IEEE P802.11
Wireless LANs

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| CC36 comment resolution: P2P Buffer report |
| Date: 2022-05-12 |
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Abstract

This submission proposes resolutions for multiple comments related to TGbe D1.5 with the following 6 CIDs:

 5240, 5963, 6074, 6353,  6649, 8325

Revisions:

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbe Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **PP** | **LL** | **Comment** | **Proposed Change** | Resolution |
| 5240 | 243 | 56 | We need a mechanism for how much/which resources (e.g., BW, Required time) a non-AP STA wants to use for peer-to-peer transmission, which would be helpful when an EHT AP allocates time to the non-AP STA and transmits MU-RTS TXS frame | As in the comment | RevisedIn 802.11ax, an HE AP solicits the resource requet from associated STAs through BSRP Trigger frame. A STA send the resource request either after receiving a soliciting BSRP Trigger or without AP’s soliciting. The requested resource in unit of buffered octets is carried in QoS Control field or BSR Control field. If 11ax solution is used here, the AP is difficult to decide the allocated medium time since MCS being used by the STA is not known and the BW is not known, e.g. for P2P. So the 11ax resource request signaling is not suitable here. In resource request for TXOP sharing, the following requested parameters are needed: medium time, BW, TID. The medium time requested is the requested resource based on BW. The BW gives the maximal bandwidth that the TXOP sharing will be used. The AP can decide the priority to allocate its metium time based on the TID and other information. TGbe editor to make changes in 11-22/0763r0 under CID 5240 |
| 5963 | 243 | 53 | The AP needs to know the resource rquirement in order to allocate the time to STA for TXOP sharing. | Add the related text. | RevisedIn 802.11ax, an HE AP solicits the resource requet from associated STAs through BSRP Trigger frame. A STA send the resource request either after receiving a soliciting BSRP Trigger or without AP’s soliciting. The requested resource in unit of buffered octets is carried in QoS Control field or BSR Control field. If 11ax solution is used here, the AP is difficult to decide the allocated medium time since MCS being used by the STA is not known and the BW is not known, e.g. for P2P. So the 11ax resource request signaling is not suitable here. In resource request for TXOP sharing, the following requested parameters are needed: medium time, BW, TID. The medium time requested is the requested resource based on BW. The BW gives the maximal bandwidth that the TXOP sharing will be used. The AP can decide the priority to allocate its metium time based on the TID and other information. TGbe editor to make changes in 11-22/0763r0 under CID 5240 |
| 6074 | 243 | 53 | the mechanism to provide the reqource request to AP by a STA for TXOP sharing should be defined. The AP can figure out whther the request is fir TB PPDU or for TXOP sharing. The simple solution could be using QoS Control field to carry the requested medium time for 20MHz BW. | Address the issue raised by the comment. | RevisedIn 802.11ax, an HE AP solicits the resource requet from associated STAs through BSRP Trigger frame. A STA send the resource request either after receiving a soliciting BSRP Trigger or without AP’s soliciting. The requested resource in unit of buffered octets is carried in QoS Control field or BSR Control field. If 11ax solution is used here, the AP is difficult to decide the allocated medium time since MCS being used by the STA is not known and the BW is not known, e.g. for P2P. So the 11ax resource request signaling is not suitable here. In resource request for TXOP sharing, the following requested parameters are needed: medium time, BW, TID. The medium time requested is the requested resource based on BW. The BW gives the maximal bandwidth that the TXOP sharing will be used. The AP can decide the priority to allocate its metium time based on the TID and other information. TGbe editor to make changes in 11-22/0763r0 under CID 5240 |
| 6353 | 243 | 55 | It would be benificial if a STA can request from the AP to schedule some time in its TXOP to transmit data. The AP needs to know some information regarding allocated time requested and when needed. Especially in the case of P2P, time request should be sent to the AP | Add a procedure to allow the non-AP STA to request the AP STA to schedule SU triggered based period and indicate requested time and time to schedule that period | RevisedIn 802.11ax, an HE AP solicits the resource requet from associated STAs through BSRP Trigger frame. A STA send the resource request either after receiving a soliciting BSRP Trigger or without AP’s soliciting. The requested resource in unit of buffered octets is carried in QoS Control field or BSR Control field. If 11ax solution is used here, the AP is difficult to decide the allocated medium time since MCS being used by the STA is not known and the BW is not known, e.g. for P2P. So the 11ax resource request signaling is not suitable here. In resource request for TXOP sharing, the following requested parameters are needed: medium time, BW, TID. The medium time requested is the requested resource based on BW. The BW gives the maximal bandwidth that the TXOP sharing will be used. The AP can decide the priority to allocate its metium time based on the TID and other information. TGbe editor to make changes in 11-22/0763r0 under CID 5240 |
| 6649 | 243 | 53 | 802.11be D1.0 has defined the Trigger TXOP TXS procedure which allows a AP to grant a STA with its obtained TXOP, but the solution on how the STA notify the duration , buffer length, etc. to the AP in advance is missing. | BSR control frame is the best place to indicate the requested TXOP duration or the length of buffered traffic in granted TXOP case, but there is no reserved bit in BSR, we can consider to signaling these information in a new A-control frame. | RevisedIn 802.11ax, an HE AP solicits the resource requet from associated STAs through BSRP Trigger frame. A STA send the resource request either after receiving a soliciting BSRP Trigger or without AP’s soliciting. The requested resource in unit of buffered octets is carried in QoS Control field or BSR Control field. If 11ax solution is used here, the AP is difficult to decide the allocated medium time since MCS being used by the STA is not known and the BW is not known, e.g. for P2P. So the 11ax resource request signaling is not suitable here. In resource request for TXOP sharing, the following requested parameters are needed: medium time, BW, TID. The medium time requested is the requested resource based on BW. The BW gives the maximal bandwidth that the TXOP sharing will be used. The AP can decide the priority to allocate its metium time based on the TID and other information. TGbe editor to make changes in 11-22/0763r0 under CID 5240 |
| 8325 | 245 | 34 | AP doesn't know any P2P transission information, how to allocate the time?Please add some mechanism to improve the scheduling efficency. | as in comment. | RevisedIn 802.11ax, an HE AP solicits the resource requet from associated STAs through BSRP Trigger frame. A STA send the resource request either after receiving a soliciting BSRP Trigger or without AP’s soliciting. The requested resource in unit of buffered octets is carried in QoS Control field or BSR Control field. If 11ax solution is used here, the AP is difficult to decide the allocated medium time since MCS being used by the STA is not known and the BW is not known, e.g. for P2P. So the 11ax resource request signaling is not suitable here. In resource request for TXOP sharing, the following requested parameters are needed: medium time, BW, TID. The medium time requested is the requested resource based on BW. The BW gives the maximal bandwidth that the TXOP sharing will be used. The AP can decide the priority to allocate its metium time based on the TID and other information. TGbe editor to make changes in 11-22/0763r0 under CID 5240 |
|  |  |  |  |  |  |

1. **Proposed spec text**

9.2.4.6 HT Control field

9.2.4.6.4 HE variant

***TGbe editor: Please make the following changes in Table 9-25 (Control ID subfield values) :***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| Control ID value |

 |

|  |
| --- |
| Meaning |

 |

|  |
| --- |
| Length of the Control Information subfield (bits) |

 |

|  |
| --- |
| Content of the Control Information subfield |

 |
| … | … | … | … |
| 10 | TXOP Sharing Resource Request | 16 | See 9.2.4.7.11 |
| 11-14 | Reserved |  |  |
| 15 |

|  |
| --- |
| Ones need expansion surely (ONES) |

 | 26 |

|  |
| --- |
| Set to all 1s |

 |

***TGbe editor: add the following subclause in subcaluse 9.2.4.7 (Control subfield variants of an A-Control subfield)***

9.2.4.7.11 TXOP Sharing Resource Request

The Control Information subfield in a TXOP Sharing Resoure Request subfield contains information related to the medium time requested for TXOP sharing for the STA transmitting the frames to its P2P peer STA (see 35.2.1.3 Triggered TXOP sharing procedure). The format of the subfield is shown in [Figure 9-x (Control Information subfield format in a TXOP Sharing Resoure Request subfield)](#bookmark2)

 B0 B3 B4 B6 B7 B14 B15

|  |  |  |  |
| --- | --- | --- | --- |
| TID | Channel Width | Requested Medium Time | Reserved |

 Bits: 4 3 8 1

 [Figure 9-x Control Information subfield format in a TXOP Sharing Resoure Request subfield](#bookmark2)

The TID subfield indicates the TID whose medium time is requested.

The Channel Width subfield as defined in Table 9-y (Channel Width subfield) indicates the maximal bandwidth of the P2P link.

The Requested Medium Time subfield indicates the requested medium time in unit of 32us and under the channel width announced by the Channel Width field.

Table 9-y — Channel Width subfield

|  |  |
| --- | --- |
| Value | Meaning |
| 0 | 20 MHz |
| 1 | 40 MHz |
| 2 | 80 MHz |
| 3 | 160 MHz |
| 4 | 320 MHz |
| 5 to 7 | Reserved |

***TGbe editor: add the following paragraphs in 35.2.1.2.3 (Non-AP STA behaviour):***

35.2.1.2.3 Non-AP STA behavior

If a non-AP STA with dot11EHTTXOPSharingTFOptionImplemented equals to true received the EHT Capabilities element with Triggered TXOP Sharing Support subfield in EHT Capabilities element equal to 1 from its associated AP, the non-AP STA may deliver TXOP sharing duration request to its associated AP to assist the AP in allocating resources for TXOP sharing operation.

After receiving the soliciting BSRP Trigger frame, a non-AP STA with dot11EHTTXOPSharingTFOptionImplemented equals to true may transmit QoS Null frame with TXOP Sharing Resource Request subfield as defined in 9.2.4.7.11 (TXOP Sharing Resource Request).

When associated with an AP from which the EHT Capabilities element with Triggered TXOP Sharing Support subfield in EHT Capabilities element equl to 1 is received, an non-AP STA with dot11EHTTXOPSharingTFOptionImplemented equals to true may deliver QoS Null/Data frame with TXOP Sharing Resource Request subfield as defined in 9.2.4.7.11 (TXOP Sharing Resource Request) that is not carried in EHT TB PPDU or HE TB PPDU.