IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Proposed Resolution for Inclusion of 6.3.126 from 802.11bd | | | | |
| Date: 2024-05-1 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Joseph LEVY | InterDigital Communication, Inc. | 111 W 33rd Street New York, NY 10120 | +1.631.622.4139 | [jslevy@ieee.org](mailto:jslevy@ieee.org) |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This document provides the context for a proposed resolution of how to included the content from IEEE Std 802.11bd-2023 provided in clause 6.3.126 in P802.11REVme, as discussed at the 802.11 REVme Ad Hoc in San Diego on Thursday 18 April 2024.

This MLME SAP interface was added to provide a standardized MAC layer management entity to provide a means for a non-802.11 entity to manage the MSDU transmission queues. Allowing the non-802.11 entity to clear the transmit queue for a particular AC on a STA operating OCB. This capability was viewed as being critical for NGV applications, which may need to manage the transmission queue on the STA. This MLME SAP interface is not simply a way of sending information contained or to be contained in defined 802.11 frames and hence does not fit well in the current format of clause 6.3. Therefore, the expanded text provided in IEEE Std 802.11bd-2022 should be included in specification. Also, note this capability is listed in Annex B (PICS) as a mandatory feature, so removal of it would change the mandatory feature list for CVNGV STAs.

The content from IEEE Std 802.11bd-2022 is provided on the following 2 pages for reference.

**Proposed resolution:**

*Include the text provided in 6.3.126 in clause 6.5.xx of 802.11REVme, add the reference to the new clause in the table in 6.4 (as shown below) and correct the reference in 10.2.3.2, to reference the new clause 6.5.xx.*

*Add the following entry to Table 6-1:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Service Name | MLME-XXX | Type | References | Comments |
| Cancel transmission of MSDUs | CANCELTX | 5 | 6.5.xx (Cancel transmissions of MSDUs) | See 10.2.3.2 (HCF contention based channel access (EDCA)) |

*Add the following (from 6.3.126 in IEEE Std 802.11bd-2022:*

*From IEEE Std 802.11bd-2022 (Acrobat page [page of, number on page])*

*(30 [31, 29])*

**6.3.126** **Cancel transmissions of MSDUs**

* + - 1. **Introduction**

This primitive allows higher layer entities (e.g., entities based on the IEEE 1609 [B22] family of standards) to cancel transmission of MSDUs that were previously sent to the STA and are still in the MAC entity’s transmit queue.

* + - 1. **MLME-CANCELTX.request**
         1. **Function**

Requests cancellation of transmission of all queued MSDUs belonging to the specified access category.

**6.3.126.2.2 Semantics of the service primitive**

The primitive parameters are as follows: MLME-CANCELTX.request(

AccessCategoryIndex

)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| AccessCategoryIndex | Integer | 0–4 | Specifies the access category index of the MSDUs that are to be removed from the transmit queue. Index 0–3 is the value of the access category in Table 9-283 and index 4 indicates all access categories. |

* + - * 1. **When generated**

This primitive is generated by the SME when the SME receives a request (from a higher layer entity) to remove MSDUs from the transmit queue.

* + - * 1. **Effect of receipt**

The receipt of this primitive by the MAC entity causes the MAC entity to remove MSDUs of the specified access category index from the transmit queue.

* + - 1. **MLME-CANCELTX.confirm**
         1. **Function**

This primitive reports completion of the removal of MSDUs from the transmit queue.

**6.3.126.3.2 Semantics of the service primitive**

This primitive has no parameters.

**6.3.126.3.3 When generated**

The primitive is generated by the MLME to inform the SME that an MLME-CANCELTX.request primitive has been completed, so that the SME can inform the requesting entity (a higher layer entity).

**6.3.126.3.4 Effect of receipt**

The SME is notified that the MAC entity has removed MSDUs of the specified access category from the

transmit queue.

This MLME SAP interface is referenced in IEEE Std 802.11be-2022 in clause 10, see below:

*Update the reference to the primitive MLME-CANCELTX.request primitive, currently in 802.11REVme D5.0 (1874,50):*

*(46 [47,43])*

**10.2.3.2 HCF contention based channel access (EDCA)**

***Change the second paragraph of 10.2.3.2 as follows:***

For each AC an enhanced variant of the DCF, called an *enhanced distributed channel access function* (*EDCAF*), contends for TXOPs using a set of EDCA parameters. When communicating Data frames outside the context of a BSS (dot11OCBActivated is true), the EDCA parameters are the corresponding default values or are as set by the SME in dot11EDCATable (except for TXOP limits, ~~which shall be~~ when the TXOP limits are set to 0 for each AC as specified in 10.23.2.9). For a STA operating OCB the STA’s transmit queue for an AC may be cleared by the invocation of the MLME-CANCELTX.request primitive (see 6.3.126). For a non-AP STA communicating within a non-mesh QoS BSS, the EDCA parameters used are from the EDCA Parameter Set element or (for a non-AP STA prior to associating with an AP of an infrastructure BSS, a mesh STA, or a STA that operates OCB) from the default values for the parameters. The parameters used by the EDCAF to control its operation are defined by dot11QAPEDCATable at the AP and by dot11EDCATable at the non-AP STA.

*Update the reference to the primitive MLME-CANCELTX in Annex B – B4.38.3:*

*(129, [130, 132]) – Annex B – B4.38.3 is currently in 802.11REVme D5.0 (5247.11).*

**B.4.38.3 NGV extended MAC service features**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Feature** | **References** | **Status** | **Support** |
|  | Are the following NGV extended MAC service features supported? |  |  |  |
| NGVE1 | NGV extended MAC service features |  |  |  |
| NGVE1.1 | NGV extended MAC service features—  MLME; 5.9 GHz band (MLME-CANCELTX) | 10.2.3.2 | CFNGV:M | Yes  No  N/A  |
| NGVE1.2 | NGV extended MAC service features— MLME; DMG  (MLME-DMG-OCB-START, MLME-DMG-OCB-STOP, MLME-OCB-DMGDISCOVERY, MLME-OCB-LINKSTATUS) | 11.1.4.  11.27 | CFNGV60:M | Yes  No  N/A  |

**References:**