IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PDT MAC MLO: NSTR blindness additional rules | | | | |
| Date: 2021-02-14 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Dibakar Das | Intel |  |  | Dibakar.das@intel.com |
| Laurent Cariou |  |  | [Laurent.cariou@intel.com](mailto:Laurent.cariou@intel.com) |
| Dmitry Akhmetov |  |  | Dmitry.akhmetov@intel.com |
| Duncan Ho | Qualcomm |  |  | dho@qti.qualcomm.com |
| George Cherian |  |  | gcherian@qti.qualcomm.com |
| Ming Gan | Huawei |  |  | [ming.gan@huawei.com](mailto:ming.gan@huawei.com) |
| Yunbo Li | Huawei |  |  | liyunbo@huawei.com |
| Jay Yang | Nokia |  |  | zhijie.yang@nokia-sbell.com |
| Chunyu Hu | Facebook |  |  | chunyuhu@fb.com |
| Morteza Mehrnoush |  |  | mmehrnoush@fb.com |

Abstract

This submission proposes additional rules to the Medium synchronization recovery procedure in 0132r3 and resolve the following TBD:

“While the MediumSyncDelay timer is running at a STA, it shall perform CCA and shall not transmit a frame that initiates a TXOP except under TBD conditions.”

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. The introduction and the explanation of the proposed changes are 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).***

**This document proposes spec text contribution for the following highlighted TBD in the following motions that passed in 11be:**

In R1, if during a transmission of a STA (STA-1) of a non-STR non-AP MLD, another STA (STA-2) of the same MLD cannot detect its medium state when required (due to STA-1’s UL transmission interference), STA-2 shall start a MediumSyncDelay timer at the end of STA-1’s transmission, unless the STA-2 ended a transmission at the same time.

* The MediumSyncDelay timer expires after a duration value that is either assigned by AP or a default value in the specification or if at least either of the following events happens:
  + any received PPDU with a valid MPDU,
  + a received PPDU whose corresponding RXVECTOR parameter TXOP\_DURATION is not UNSPECIFIED,

whichever happens first.

* STA-2 shall perform CCA until the MediumSyncDelay timer expires. Additional TBD exceptions may be considered.

NOTE – It is TBD whether STA-2 is required to start the MediumSyncDelay timer if the transmission of STA-1 is shorter than TBD duration.

[Motion 150, #SP373, [92] and [273]]

**Proposed spec text:**

***TGbe editor: Modify the following text in 35.3.13.7 Medium synchronization recovery procedure in 132r3 as follows:***

**35.3.13.7 Medium synchronization recovery procedure**

While the MediumSyncDelay timer is running at a STA, the STA shall perform channel access using EDCA according to the following rules:

* It shall perform CCA and not attempt to initiate more than MSD\_TXOP\_MAX number of TXOPs using EDCA.
* It shall transmit an RTS as the first frame to initiate any TXOP for UL data/management frame exchange.
* It shall use a special ED threshold (dot11MSDOFDMEDthreshold) value (see 36.3.19.6 CCA sensitivity).

A STA shall use a default MSD\_TXOP\_MAX value of 1 and dot11MSDOFDMEDthreshold value of -62dBm. The STA shall use update the MSD\_TXOP\_MAX value and dot11MSDOFDMEDthreshold with the one provided by the AP in a TBD element. The STA shall update the dot11MSDOFDMEDthreshold value with the one contained in the TBD field of the TBD element in the most recent frame received from its associated AP.The value of MSD\_TXOP\_MAX assigned by the AP in the element (if present) shall be at least 1.

Note- If either the intra-BSS NAV or the inter-BSS NAV is non-zero in a STA when it starts the MediumSyncDelay timer, the STA does not transmit any PPDU using EDCA until both NAV expires.

The AP associated to a non-AP STA that has started a MediumSyncDelay timer should transmit a Trigger frame to this STA soliciting UL PPDU if both the following conditions are true:

* the AP does not have frame exchanges already scheduled with another STA.
* the AP MLD containing the AP has received a TBD signal from another STA affiliated to the same MLD as the STA that has started the timer that the latter STA intends to transmit an UL PPDU (see xxx).

Note- A STA shall transmit a frame containing the TBD signaling only if it supports this signaling and only to an AP that has indicated support for receiving this frame.

If the received signal strength on the STA's operating channel exceeds the ED threshold and no start of a PPDU is detected during the aCCAtime (see 36.3.19.6.3 CCA sensitivity for occupying the primary 20 MHz channel) following the end of the transmission event that caused loss of medium synchronization, it is TBD whether the STA shall defer for EIFS as described in 10.3.2.3.7 (EIFS).

**References:**