IEEE P802.11
Wireless LANs

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| Spec text for Motion 112, #SP27 |
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Abstract

We propose the draft specification text for Motion 112, #SP27 to help the creation of TGbe draft D0.3.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Updated based on feedback during TGbe MAC call on 12/3/20

The texts is prepared for the following motion:

After the BA agreement of a TID between two MLDs, the common reordering buffer of the TID are applied on all setup links.

[Motion 112, #SP27]

**Proposed spec text:**

The baseline for this text is 802.11be D0.1.

* Multi-link block ack
* Multi-link BlockAck procedure
* General

A block ack agreement between two MLDs shall apply to all links to which the TID corresponding to the block ack agreement, is mapped (i.e., there are no independent block ack agreements on a per-link basis).

NOTE 1—Frame exchanges for a TID might be governed by TID-to-Link mapping rules (see 35.3.6.1 (TID-to-link mapping)).

To setup a block ack agreement between two MLDs, a STA of the originator MLD sends an ADDBA Request frame, on any enabled link, indicating the TID for which the block ack agreement is being set up. The Buffer Size and Block Ack Timeout fields in the ADDBA Request frame are advisory. A STA of the recipient MLD shall respond with an ADDBA Response frame. The recipient MLD has the option of accepting or rejecting the request. If the recipient MLD accepts the request, then a block ack agreement exists between the originator MLD and recipient MLD for that TID as defined in 10.25.2 (Setup and modification of the block ack parameters).

If an MLD has established a block ack agreement with another MLD, then QoS Data frames for the TID associated with the block ack agreement may be exchanged between the two MLDs on any link to which the TID is mapped and subject to existing restrictions for transmissions of frames that apply to those enabled links, following the procedure described in 35.3.7.1 (Multi-link BlockAck procedure).

NOTE 2—QoS Data frames that are not fragments might be (re)transmitted on any link(s) where the corresponding TID is mapped to.

A STA of a recipient MLD shall provide the receive status on the link where the STA is operating on for any MPDU with ACK policy equal to any value other than No Ack that is received on the link where the STA is operating on.

A STA of a recipient MLD may provide (if available) information on successful reception of any MPDU with ACK policy equal to any value other than No Ack that is received by another STA of that MLD.

An originator MLD shall update the receive status for an MPDU corresponding to a BA agreement if the received status indicates successful reception.

An originator MLD shall not update the receive status for an MPDU corresponding to a BA agreement that has already been positively acknowledged.

***TGbe editor: Please update the following paragraph in this subclause as follows:***

A recipient MLD shall maintain a single common receive reordering buffer for each <peer MLD, TID> couple under a block ack agreement, independently of the number of links that are setup. The receive reordering buffer shall be responsible for reordering MSDUs or A-MSDUs so that MSDUs or A-MSDUs are eventually passed up to the next MAC process in order of received sequence number. It shall also be responsible for identifying and discarding duplicate frames (i.e., frames that have the same sequence number as a currently buffered frame) that are part of this block ack agreement. It shall maintain its own state independent of the scoreboard context control to perform this reordering as specified in 10.25.6.6 (Receive reordering buffer control operation). Each received MPDU shall be analyzed by the scoreboard context control as well as by the receive reordering buffer control.

An EHT STA shall send Control frames following the rules defined in 10.6.6 (Rate selection for Control frames) and 26.15.2 (PPDU format selection) with the following additional exception:

* An EHT STA may transmit a BlockAck frame in an HE SU PPDU or EHT SU PPDU if the transmit time of HE SU PPDU or EHT SU PPDU (respectively) is less than the PPDU duration of a non-HT PPDU containing the Control frame sent at the primary rate (see 10.6.6.5.2 (Selection of a rate or MCS)).