IEEE P802.11
Wireless LANs

|  |
| --- |
| Some clause 3 comment resolutions for LB-259 |
| Date: 2022-01-17 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Joseph LEVY | InterDigital, Inc. | 111 W 35th St., NY, New York | +1 631.622.4239 | joseph.levy@interdigital.com |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This document provides proposed comment resolutions for CIDs submitted in response to the 802.11 TGbd D3.0 WG letter ballot #259. CIDs: 3054 and 3060.

The comments are available in: <https://mentor.ieee.org/802.11/dcn/21/11-21-1296-00-00bd-tgbd-lb254-comments.xlsx>.

Status: Highlighting in CID column indicates the status of the discussion on the CID:

Not Discussed (not highlighted)

Discussed additional discussion required (date of discussion(s) is(are) located below CID number)

Discussed / ready for SP (date of discussion(s) is(are) located below CID number)

SP run / ready for Motion (date of the SP is located below the date of discussion)

Motioned (date of Motion is located below the date of the SP)

Resolution Status: Highlighting in the Resolution column indicates:

Yellow highlighted text needs to be discussed

Red highlighted text has been discussed and additional discussion is required

**CIDs for Clause 3.2 page 17, lines 13 and 17:**

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Comment** | **Proposed Change** | **Resolution** |
| 3054 | "A feature of a VHT STA or a NGV STA..." It is feature of both STA types, not just one or the other. Similarly at 17.23. | Change "or" to "and" and 17.13 and 17.23 | Reject:Features that are used by multiple STA types typically use “or” between the types.e.g., bandwidth signaling transmitter address (TA): A TA that is used by a very high throughput (VHT) station (STA) or a high-efficiency (HE) STA to indicate the presence of additional signaling …andindividually addressed resource unit (RU): A resource unit in a high-efficiency (HE) multi-user (MU) physical layer (PHY) protocol data unit (PPDU) transmitted by an access point (AP) or a tunneled direct link setup (TDLS) peer station (STA) that is intended for a single associated non-AP STA or a TDLS peer STA, respectively.  |
| 3060 | The sentence " ... negotiates a potentially reduced channel width (compared to the channel width indicated by the RTS) for subsequent transmissions within the current transmission opportunity (TXOP)" suggests that the dynamic bandwidth operation can be initiated only when the RTS specifies 20 MHz channel width to begin with for the NGV STA. It seems counter-intuitive because the mandatory channel width for the NGV PPDU is 10 MHz, and 20 MHz is optional. May need a separate paragraph to illustrate the dynamic bandwidth operation for the NGV PPDU. | As in comment. | Reject:Dynamic bandwidth operation is only applicable for an NGV STA using a 20 MHz channel. If the STA configured to use a 10 MHz channel there can be no reduction in the bandwidth, as all PPDUs will be transmitted over the 10 MHz channel. Dynamic bandwidth operation only works for a STA operating using a non-NGV duplicate PPDU in a 20 MHz bandwidth, such a STA can dynamically reduce its BW to 10 MHz by sending a single non-NGV PPDU 10 MHz PPDU (a non-duplicate PPDU) on one of the two channels.  |

**D3.0 Text:**

**dynamic bandwidth operation:** A feature of a very high throughput (VHT) station (STA) or a next generation vehicle-to-everything (NGV) STA in which the request-to-send/clear-to-send (RTS/CTS) exchange, using non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data units (PPDUs) or non-NGV duplicate PPDUs, respectively, negotiates a potentially reduced channel width (compared to the channel width indicated by the RTS) for subsequent transmissions within the current transmission opportunity (TXOP).

**bandwidth signaling transmitter address (TA):** A TA that is used by a very high throughput (VHT) station (STA) or a next generation vehicle-to-everything (NGV) STA to indicate the presence of additional signaling related to the bandwidth to be used in subsequent transmission in an enhanced distributed channel access (EDCA) transmission opportunity (TXOP). It is represented by the IEEE medium access control (MAC) individual address of the transmitting VHT STA or NGV STA but with the Individual/Group bit set to 1.

**Discussion:**

While the two rejections provide above can resolve these CIDs, if we look deeper there are additional issues. Dynamic bandwidth operation is used by more than just VHT STAs. It can be used by S1G STAs and HE STAs. The current 802.11me D1.0 has updated the bandwidth signaling TA definition to include HE STAs but not S1G STAs (so the base line TA definition used is wrong):

“**bandwidth signaling transmitter address (TA):** A TA that is used by a very high throughput (VHT) station (STA) or a high-efficiency (HE) STA to indicate the presence of additional signaling related to the bandwidth to be used in subsequent transmission in an enhanced distributed channel access (EDCA) transmission opportunity (TXOP). It is the IEEE medium access control (MAC) individual address of the transmitting STA but with the Individual/Group bit set to 1.”

802.11me D1.0 did not update the dynamic bandwidth operation definition. We are adding the feature for NGV STAs. But I don’t think we should be changing the definition beyond the scope of adding NGV STAs, so we are relatively limited in what we can do. I think the best way forward is to simply add NGV STAs to the definition without changing the original definition for dynamic bandwidth operation (and change the original to align with 802.11me D1.0. For the bandwidth signaling transmitter address definition I think the best way forward is to remove all the STA types and just define the TA and let the spec body specify where it applies. But we would have to change the baseline to do this and that is always a bad idea. So, it is probably best to use the same approach in both definitions, just add NGV at the end. This approach will allow TGbe to change these definitions as it sees fit without impacting us.

**Alternative resolution:**

**dynamic bandwidth operation:** A feature of a very high throughput (VHT) station (STA) in which the request-to-send/clear-to-send (RTS/CTS) exchange, using non-high-throughput (non-HT) duplicate physical layer (PHY) protocol data units (PPDUs) negotiates a potentially reduced channel width (compared to the channel width indicated by the RTS) for subsequent transmissions within the current transmission opportunity (TXOP). Dynamic bandwidth operation can also be used by a next generation vehicle-to-everything (NGV) STA using non-NGV duplicate PPDUs.

**bandwidth signaling transmitter address (TA):** A TA that is used to indicate the presence of additional signaling related to the bandwidth to be used in subsequent transmission in an enhanced distributed channel access (EDCA) transmission opportunity (TXOP). It is represented by the IEEE medium access control (MAC) individual address of the transmitting station (STA) but with the Individual/Group bit set to 1.

Baseline for 802.11me D1.0 with NGV at the end:

**bandwidth signaling transmitter address (TA):** A TA that is used by a very high throughput (VHT) station (STA) or a high-efficiency (HE) STA to indicate the presence of additional signaling related to the bandwidth to be used in subsequent transmission in an enhanced distributed channel access (EDCA) transmission opportunity (TXOP). It is the IEEE medium access control (MAC) individual address of the transmitting STA but with the Individual/Group bit set to 1. A bandwidth signaling TAs may also be used by a next generation vehicle-to-everything (NGV) STA to indicate the presence of additional signaling.

**References:**