IEEE P802.11
Wireless LANs

|  |
| --- |
| Resolution for some MAC comments in SB1 |
| Date: 2016-02-19 |
| Author: |
| Name | Affiliation | Address | Phone | Email |
| Edward Au | Huawei Technologies | 303 Terry Fox Drive, Suite 400, Ottawa, Ontario K2K 3J1 |  | edward.ks.au@huawei.com  |

##### This submission presents proposed resolution to CIDs 7689, 7692, 7645, 7646, 7647 and 7820. Changes indicated by instructions.

##### Revision history:

##### R0 – initial version

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change |
| 7689 | 10.7.12.1 | 1328 | 6 | The first para has been changed to introduce a "first STA" and "second STA" but the rest still has unadorned "STA"s, which are now ambiguous | Add "first" or "second" before every "STA" that does not have one |

***Discussion:***

Referring to this subclause, the first VHT STA is actually the “STA on receive” as shown in the bullets.



**Resolution**

**Revised**

### TGmc Editor: Replace “the STA on receive” with “the first STA” in clause 10.7.12.1 as follows.

The Rx Supported VHT-MCS and NSS Set of a first VHT STA is determined by a second VHT STA for each <VHT-MCS, NSS> tuple NSS = 1, …, 8 and bandwidth (20 MHz, 40 MHz, 80 MHz, and 160 MHz or 80+80 MHz) from the Supported VHT-MCS and NSS Set field received from the first STA as follows:

 — If support for the VHT-MCS for NSS spatial streams for a bandwidth is mandatory (see 21.5 (Parameters for VHT-MCSs)), then the <VHT-MCS, NSS> tuple at that bandwidth is supported by the first STA.

 — Otherwise, if the Max VHT-MCS For n SS subfield (n = NSS) in the Rx VHT-MCS Map subfield indicates support and the Rx Highest Supported Long GI Data Rate subfield is equal to 0, then the <VHT-MCS, NSS> tuple at that bandwidth is supported by the first STA, except that if the value of dot11VHTExtendedNSSBWCapable of the second STA is false, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-8 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of false for dot11VHTExtendedNSSBWCapable) and if the value of dot11VHTExtendedNSSBWCapable of the second STA is true, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-9 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of true for dot11VHTExtendedNSSBWCapable).

 — Otherwise, if the Max VHT-MCS For n SS subfield (n = NSS) in the Rx VHT-MCS Map subfield indicates support and the data rate for long GI of the MCS for NSS spatial streams at that bandwidth (expressed as the largest integer in Mb/s that is less than or equal to the data rate) is less than or equal to the rate represented by the Rx Highest Supported Long GI Data Rate subfield, then the <VHT-MCS, NSS> tuple at that bandwidth is supported by the first STA, except that if the value of dot11VHTExtendedNSSBWCapable of the second STA is false, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-8 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of false for dot11VHTExtendedNSSBWCapable) and if the value of dot11VHTExtendedNSSBWCapable of the second STA is true, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-9 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of true for dot11VHTExtendedNSSBWCapable).

 — Otherwise, the <VHT-MCS, NSS> tuple at that bandwidth is not supported by the first STA.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change |
| 7692 | 10.7.12.2 | 1330 | 44 | The first para has been changed to introduce a "first STA" and "second STA" but the rest still has unadorned "STA"s, which are now ambiguous | Add "first" or "second" before every "STA" that does not have one |

***Discussion:***

Referring to this subclause, the first VHT STA is actually the “STA on transmit” as shown in the bullets.







**Resolution**

**Revised**

### TGmc Editor: Replace “the STA on transmit” with “the first STA” in clause 10.7.12.2 as follows.

The Tx Supported VHT-MCS and NSS Set of a first VHT STA is determined by a second STA for each <VHT-MCS, NSS> tuple NSS = 1,…, 8 and bandwidth (20 MHz, 40 MHz, 80 MHz, and 160 MHz or 80+80 MHz) from the Supported VHT-MCS and NSS Set field received from the first STA as follows:

 — If support for the <VHT-MCS, NSS> tuple at that bandwidth is mandatory (see 21.5 (Parameters for VHT-MCSs)), then the <VHT-MCS, NSS> tuple at that bandwidth is supported by the first STA.

 — Otherwise, if the Max VHT-MCS for n SS subfield (n = NSS) in the Tx VHT-MCS Map subfield indicates support and the Tx Highest Supported Long GI Data Rate subfield is equal to 0, then the <VHT-MCS, NSS> tuple at that bandwidth is supported by the first STA, except that if the value of dot11VHTExtendedNSSBWCapable of the second STA is false, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-8 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of false for dot11VHTExtendedNSSBWCapable) and if the value of dot11VHTExtendedNSSBWCapable of the second STA is true, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-9 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of true for dot11VHTExtendedNSSBWCapable).

 — Otherwise, if the Max VHT-MCS for n SS subfield (n = NSS) in the Tx VHT-MCS Map subfield indicates support and the data rate for long GI of the <VHT-MCS, NSS> tuple at that bandwidth (expressed as the largest integer in Mb/s that is less than or equal to the data rate) is less than or equal to the rate represented by the Tx Highest Supported Long GI Data Rate subfield, then the <VHT-MCS, NSS> tuple at that bandwidth is supported by the first STA, except that if the value of dot11VHTExtendedNSSBWCapable of the second STA is false, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-8 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of false for dot11VHTExtendedNSSBWCapable) and if the value of dot11VHTExtendedNSSBWCapable of the second STA is true, the supported bandwidth values and NSS values of each <VHT-MCS, NSS> tuple are updated according to Table 10-9 (Interpretation of the Supported Channel Width Set and Extended NSS BW Support subfield of the VHT Capabilities Information field and the Channel Width field of the Operating Mode field at a receiving STA with a value of true for dot11VHTExtendedNSSBWCapable).

 — Otherwise, the <VHT-MCS, NSS> tuple at that bandwidth is not supported by the first STA.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change |
| 7645 | 10.3.2.12.2 | 1284 | 13 | SNS2 for Table 10-3---Transmitter sequence number spaces says "Individually addressed QoS Data" as the name of the space, but does not mention unicast in the Applies to | Change the Applies to to "A STA operating as a QoS STA transmitting an individually addressed QoS Data frame, excluding SNS5" |
| 7646 | 10.3.2.12.2 | 1284 | 13 | "A STA operating as a QoS STA transmitting a QoS Data frame" -- a non-QoS STA does not transmit QoS Data frames | Simplify to "A STA transmitting a QoS Data frame" |

***Discussion:***

***General***

These two CIDs are related to Table 10-3 as follows.



***For CID 7645***

The commenter points out correctly that the SNS2 is for individually addressed QoS Data, and therefore, the description under the column “Applies to” should mention explicitly about “individually addressed”.

As a related note, it is mentioned in clause 10.3.2.12.2 that group addressed retransmissions of BUs use the same sequence number as the initial group addressed transmission of the BU. Unicast retransmissions of a group addressed BU delivered via DMS use the same sequence number as the initial unicast transmission of the BU. When a BU is delivered both using group addressing and unicast (e.g., when DMS is active but there are other associated STAs not using DMS), the sequence number might differ between the group addressed and unicast transmissions of the same BU.

***For CID 7646***

The commenter points out correctly that a non-QoS STA does not transmit QoS Data frames. The sentence can be simplified as per commenter’s proposed resolution.

**Resolution for CID 7645**

**Accepted**

### TGmc Editor: In line 1284.14, replace “transmitting a QoS Data frame” with “transmitting an individually addressed QoS Data frame”.

**Resolution for CID 7646**

**Accepted**

### TGmc Editor: In line 1284.13, replace “A STA operating as a QoS STA” with “A STA”.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change |
| 7647 | 10.3.2.12.3 | 1285 | 1 | "A QoS STA receiving an individually addressed QoS Data frame" and "A QoS STA receiving a QoS Null frame" and "A QMF STA receiving an individually addressed QMF" and "STA with dot11RobustAVStreamingImplemented true receiving a group addressed frame subject to a GCR agreement" (2x) -- a non-QoS/QMF/RAVS STA does not receive such frames | Simplify each to "A STA receiving..." |

**Resolution**

**Accepted**

### TGmc Editor:

### In line 1285.8, replace “A QoS STA receiving an (individually or group addressed) QoS Data frame” with “A STA receiving an (individually or group addressed) QoS Data frame”.

### In line 1285.40, replace “A QMF STA receiving an inidivudally addressed QMF” with “A STA receiving an individually addressed QMF”.

### In line 1285.49, replace “A nonmesh STA with dot11RobustAVStreamingImplemented true receiving a group addressed frame subject to a GCR agreement” with “A nonmesh STA receiving a group addressed frame subject to a GCR agreement”.

### In line 1285.57, replace “A mesh STA with dot11RobustAVStreamingImplemented true receiving a group addressed frame subject to a GCR agreement” with “A mesh STA receiving a group addressed frame subject to a GCR agreement”.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CID | Clause | Page | Line | Comment | Proposed Change |
| 7820 | 10.2.8 | 1266 | 48 | "If the Address 1 field of an MPDU carrying an A-MSDU does not match any individual address ..." So, no multicast works (including all GCR)? | Change "individual address" to "address" |

***Discussion:***

The Address 1 field of an MPDU carrying an A-MSDU shall be set to an individual address or to the GCR concealment address.

**Resolution**

**Accepted**

### TGmc Editor: In line 1266.48, replace “If the Address 1 field of an MPDU carrying an A-MSDU does not match any individual address at a receiving STA, then the entire A-MSDU is discarded.” with “If the Address 1 field of an MPDU carrying an A-MSDU does not match any address at a receiving STA, then the entire A-MSDU is discarded.”