IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Some clause 5/6 comment resolutions for LB-259 | | | | |
| Date: 2022-01-20 | | | | |
| 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: 3105, 3106, 3011, and 3015.

The comments are available in: <https://mentor.ieee.org/802.11/dcn/21/11-21-1296-07-00bd-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 5.2.3.2 page 17, lines 17:**

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Comment** | **Proposed Change** | **Resolution** |
| 3105 | The response to CID 2211 did not address the question raised. The question is how the new parameter this being added to MA-UNITDATA will map to the \_use\_ of MA-UNITDATA per 802.1AC (which defines how the MAC SAP primitives are invoked and how they map to the defined SAP interface to the LLC sub-layer (the M\_UNITDATA primitives). The response to CID 2211 explained why the parameter is useful, or is used by an application/higher-layer. What is still missing is how the parameter will map to/be mapped by the convergence function. (We can add parameters to these primitives, we just need to explain how they work/get up the stack.) | Add explanation for the new parameters, and how 802.1AC operation should treat them. (This probably also includes a liaison with 802.1 to update the 802.11 mapping clauses/annexes.) | Revised:  Discussion: These parameters are not intended to support 802.1AC LLC operation. These parameters are intended to be used by other higher layer entities, e.g., entities based on IEEE Std 1609 and other ITS standards that use IEEE Std 802.11bd to provide wireless communication for V2X. These parameters have been liaised to IEEE P1609.  Insert the following:  “5.2.2a NGV MAC data service specification  An NGV STA coordinates with higher layer ITS entities (e.g., IEEE 1609 family of standards) to provide wireless communications services via the LLC sublayer. The MA-UNITDATA primitives contain the radio environment request vector to facilitate the coordination.” |

**CIDs for Clause 6.3.126.2 Page 29, lines 9:**

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Comment** | **Proposed Change** | **Resolution** |
| 3106 | The response to CID 2216 did not address the concern raised. The point is that for a primitive in clause 6, there needs to be \_some\_ text in a normative behavior clause that explains what this primitive is doing, how/when it would be used, etc. Even if minimal, we really need to say \_something\_ about what these primitives do, and the behavior does not go in clause 6. | Add text in a normative behavior clause (probably clause 31) to explain the use of these primitives. | Revised:  Discussion: These additions to the MLME SAP introduced in 802.11bd are intended to be used by other higher layer entities, e.g., entities based on IEEE 1609 family and other ITS standards that use IEEE Std 802.11bd to provide wireless communication for V2X. These primitives allow for the management/control of the NGV STA. These parameters have been liaised to IEEE P1609. Agree with the commentor that this management/control capability should also be described in the MAC section. However, clause 31 does not discuss how NGV queues are managed or even mention that there are queues. Therefore, an addition is made to the clause in 10.3 where the queues are discussed.  Modify 6.3.126.1 to be:  “This primitive allows higher layer entities (e.g., entities based on the IEEE 1609 [B20] 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.”  Add to clause 10.2.3.2 following current addition “… as specified in 10.23.2.9.” the following sentence:  “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).”  *Editor, please see 11-21.0111r2 CID 3106 discussion for inline edits. Also note there is an inconsistent word use in the draft: communicating OCB and operating OCB. Based on the 802.11 base line draft (802.11-2020) the preferred phrase is operating OCB. Please align the draft with this preferred wording.* |

**CIDs for Clause 6.3.128.2.2 Page 34, line 33:**

|  |  |  |  |
| --- | --- | --- | --- |
| CID | Comment | Proposed Change | Resolution |
| 3011 | The "RadioEnviornmentMeasurementPeriod" parameter of the MLME-RADIOENVIRONMENT.request primitive is not defined. | Please provide a definition similar to the MIB entry dot11RadioEnvironmentMeasurementPeriod on P135L54-65. | Revised:  The RadioEnvironmentMeasurementPeriod is defined, please see the modification provide in 11-21/0111r2 for CID 3011/3015.  Additional correction: The definition of the MIB variables should be aligned with these new definitions in clause 6.3.128.2.2, as provided in 11-21/0111r2 for CID 3111/3015. |

**CIDs for Clause 31.6 Page 64, line 64:**

|  |  |  |  |
| --- | --- | --- | --- |
| CID | Comment | Proposed Change | Resolution |
| 3015 | The MLME-RADIOENVIRONMENT.request primitive only contains the RadioEnvironmentMeasurementPeriod as a a parameter, but not the StationMeasurementPeriod as mentioned on P67L64-P68L1. | Please add the parameter "StationMeasurementPeriod" and provide a defintion similar to the MIB entry dot11StationmeasurementPeriod on P136L12-22 | Revised:  The StationMeasurementPeriod is added and defined, please see modification provide in 11-22/0111r2 for CID 3011/3015.  Additional corrections:  The awkward text in clause 31.6 should be corrected as shown in 11-21/0111r2 for CID 3011/3015. |

**CID 3106:**

**Existing text D3.0:**

**10.2 MAC architecture**

**10.2.3 Hybrid coordination function (HCF)**

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

***Change the 2nd paragraph 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)~~For a STA communicating OCB, the EDCA parameters are the corresponding default values or are as set by the SME in dot11EDCATable (except for TXOP limits for a non-NGV STA, which shall be set to 0 for each AC as specified in 10.23.2.9 (TXOP limits(#2056, #2057, #2073))).(#2056, #2057, #2073) 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.

**Revised text:**

**10.2 MAC architecture**

**10.2.3 Hybrid coordination function (HCF)**

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

***Change the 2nd paragraph 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)~~For a STA communicating OCB, the EDCA parameters are the corresponding default values or are as set by the SME in dot11EDCATable (except for TXOP limits for a non-NGV STA, which shall be set to 0 for each AC as specified in 10.23.2.9 (TXOP limits(#2056, #2057, #2073))).(#2056, #2057, #2073) 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.

**CID 3011/3015:**

**Existing text D3.0:**

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-RADIOENVIRONMENT.request (

RadioEnvironmentMeasurementPeriod  
)

**Revised text:**

* Semantics of the service primitive

The primitive parameters are as follows:

MLME-RADIOENVIRONMENT.request (

RadioEnvironmentMeasurementPeriod

StationMeasurementPeriod  
)

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid range | Description |
| RadioEnvironmentMeasurementPeriod | Integer | 0 or 100-1000 | Specifies the amount of time in milliseconds the NGV STA measures the channel busy percentage measurement. When equal to 0, measurements are not made. |
| StationMeasurementPeriod | Integer | 0 or 100-1000 | Specifies the amount of time in milliseconds the NGV STA measures the number of neighboring STAs and the number of neighboring NGV STAs. When equal to 0, measurements are not made. |

Note: if these descriptions are acceptable, then the dot11RadioEnvironmentMeasurementPeriod and dot11StationMeasurementPeriod definitions must be updated to align and 0 must be an allowed value.

These definitions are based on the text in clause 31.6:

“If requested by the upper layer, an NGV STA with dot11RadioEnvironmentMeasurementPeriod not equal to 0 shall measure the channel busy percentage and report the measurement results to the upper layer as defined in 6.3.128 (NGV radio environment measurement).

If requested by the upper layer, an NGV STA with dot11StationMeasurementPeriod not equal to 0 shall measure the number of neighboring STAs, the number of neighboring NGV STAs and report the measurement results to the upper layer as defined in 6.3.128 (NGV radio environment measurement).”

**Modify clause 31.6, page 67 line 65 as follows:**

“If requested by the upper layer, an NGV STA with dot11StationMeasurementPeriod not equal to 0 shall measure the number of neighboring STAs (non-NGV STAs and NGV STAs) and the number of neighboring NGV STAs, and report these measurement results to the upper layer …”

MIB corrections: The range is extended to include 0. The default value is set to zero, no measurement.

**Modify clause C.3 as shown:**

**Page 135 line 54:**

dot11RadioEnvironmentMeasurementPeriod OBJECT-TYPE

SYNTAX Unsigned32 (0..1000)

UNITS "milliseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect as soon as practical in the implementations. This attribute indicates the amount of time an NGV STA conducts the radio measurement before reporting its radio environment. When equal to 0, measurements are not made."

DEFVAL { 0 }

::= { dot11StationConfigEntry 204}

**Page 136 line 12:**

dot11StationMeasurementPeriod OBJECT-TYPE

SYNTAX Unsigned32 (0..1000)

UNITS “milliseconds”

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This is a control variable. It is written by an external management entity or the SME. Changes take effect as soon as practical in the implementations. This attribute indicates the amount of time an NGV STA conducts the STA measurement before reporting its radio environment. When equal to 0, measurements are not made."

DEFVAL { 0 }

::= { dot11StationConfigEntry <ANA> }

**References:**