IEEE P802.11  
Wireless LANs

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| 802.11bc Resolution for CIDs in 9.4.2.300 (LB 252) | | | | |
| Date: January 10, 2021 | | | | |
| Author(s): | | | | |
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Abstract

This submission proposes resolutions for the following 28 comments submitted during LB 252 for 11bc D1.0 clause 9.4.2.300:

1402, 1262, 1007, 1200, 1403, 1263, 1404, 1405, 1256, 1477, 1062, 1594, 1086, 1598, 1484, 1266, 1552, 1553, 1596, 1439, 1112, 1267, 1127, 1064, 1257, 1479, 1212, 1272

Revisions:

* Rev 0: Initial version of the document.

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 TGbc Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbc Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbc Editor: Editing instructions preceded by “TGbc Editor” are instructions to the TGbc editor to modify existing material in the TGbc draft. As a result of adopting the changes, the TGbc editor will execute the instructions rather than copy them to the TGbc Draft.***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Page** | **Line** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 1402 | Michael Montemurro | 5.00 | 5 | 9.4.2.300.1 | An AP advertises informaiton as opposed to declaring information in IEEE 802.11 protocols. | Change "declares" to "advertises" | **Revised**  Agree with the comment. The sentence is revised to clarify that an eBCS AP advertises its capabilities by including this element in the Beacon and Probe Response frame.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1402 |
| 1262 | Mark RISON | 24.00 | 5 | 9.4.2.300.1 | "An eBCS AP declares support for forwarding service and capabilities related to that forwarding service by 5 including the E-BCS Parameters element in Beacon and Probe Response frames it transmits. " -- the next subclause suggests it does other stuff with the element too (and even if not it's a candidate for spec rot), and the second half is duplicative of the MMPDU content tables above (except that this sentence suggest the inclusion is conditional while the tables say it's always included) | Delete this sentence | **Revised**  The sentence is revised to clarify that this element is always included in the Beacon and Probe Response frame transmitted by an eBCS AP and provides the capabilities of the transmitting AP. Furthermore, the AP Control field is updated to include bit that indicates whether the Next EBCS Info frame field is present or not.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1262 |
| 1007 | Abhishek Patil | 24.00 | 5 | 9.4.2.300.1 | An eBCS AP may support only the UL broadcast (forwarding service), or only the DL broadcast service or both. The E-BCS Parameter element is common to both and has fields that carry attributes for each case. Hence, the support for forwarding service should not be tied to the inclusion of the element in the Beacon or Probe Response frame. | Make AP UL Control as an optional field and add a description as follow: "An eBCS AP declares support for forwarding service and provides capabilities related to that forwarding service by including the AP UL Control field in E-BCS Parameters element." In addition, replace the cited paragraph with the following: "An eBCS AP includes the E-BCS Parameters element in Beacon and Probe Response frames it transmits if it support forwarding service or transmits eBCS Info frames at period intervals. Otherwise this element is not included in the Beacon and Probe Response frame.". | **Revised**  Agree in principle with the comment. The sentence is revised to clarify that an eBCS AP advertises its capabilities by including this element in the Beacon and Probe Response frame. The AP Control field is updated to include bit that indicates whether the Next EBCS Info frame field is present or not.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1007 |
| 1200 | Jouni Malinen | 24.00 | 21 | 9.4.2.300.2 | E-BCS Parameters element is claimed to be extensible, but the optional field at the end of the E-BCS Parameters subfield in frames transmitted by an AP does not allow extensibility since the receiver cannot determine whether that optional subfield is present and as such, where a possible future extension would start. | Add an explicit indication for the presence of the Next eBCS Info frame subfield into the the AP Control field using one of the reserved bits. In Figure 9-bc3, add a new one bit subfield B5 "Next eBCS Info frame present" updating the Reserved subfield to B6..B7. At P25L19, replace "If the STA does not transmit eBCS Info frames, this subfield is not used" with "This subfield is present when the Next eBCS Info frame present subfield" is one; otherwise not present.. | **Revised**  Agree in principle with the comment. The AP Control field is updated to include bit that indicates whether the Next EBCS Info frame field is present or not.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1200 |
| 1403 | Michael Montemurro | 24.00 | 7 | 9.4.2.300.1 | It looks as if E-BCS Parameters element is an optional element. If it is, it would be good to state it more directly. | Change "An eBCS non-AP STA advertises the E-BCS Parameters element in an UL eBCS frame if it intends for an AP to append additional information to the packet before forwarding it to a remote destination. Otherwise, an eBCS non-AP STA does not include this element in the eBCS UL frame" to "An eBCS non-AP STA optionally includes the E-BCS Parameters element in a UL eBCS frame to provide additional information to the eBCS AP. The eBCS AP forwards the additional information with the payload of the received frame to the remote destination. | **Revised**  Agree in principle with the comment. The paragraph is updated to clarify that the element is optionally carried in the UL eBCS frame  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1403 |
| 1263 | Mark RISON | 24.00 | 7 | 9.4.2.300.1 | "An eBCS non-AP STA advertises the E-BCS Parameters element in an UL eBCS frame if it intends for an 7 AP to append additional information to the packet before forwarding it to a remote destination. Otherwise, 8 an eBCS non-AP STA does not include this element in the eBCS UL frame. " -- this is behaviour not format. Also "UL eBCS" v "eBCS UL" | Delete this para | **Revised**  Agree in principle with the comment. The paragraph is simplified to say that the element is optionally carried in the UL eBCS frame with a reference to clause 11 which provides details on the behavioral aspect.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1263 |
| 1404 | Michael Montemurro | 24.00 | 12 | 9.4.2.300.1 | Using an element and a field with the same name can get very confusing. Consider changing the name of one or the other to distinguish between the two. | Change "E-BCS Parameters" field to "E-BCS Info" field, and propagate through the remainder of the document. | **Revised**  Agree with the comment. The field name is renamed to EBCS Info field.  TGbc editor please make global replacement of the field name E-BCS Parameters to EBCS Info field and also make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1404. |
| 1405 | Michael Montemurro | 24.00 | 24 | 9.4.2.300.2 | An AP STA is really just an AP | Change "AP STA" to "AP" | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1405 |
| 1256 | Mark RISON | 24.00 | 18 | 9.4.2.300.2 | "E-BCS AP Parameters for an AP STA " is duplicative. Also it's a field name | Delete the first "AP", add " field" after "Parameters" | **Revised**  The title is updated as suggested by the comment.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1256 |
| 1477 | Stephen McCann | 24.00 | 18 | 9.4.2.300.2 | The title does not need to mention AP STA, as AP is a recognised term | Change the clause title to "eBCS AP Parameters for an AP" | **Revised**  The title is updated to clarify the subclause covers the field format when the element is transmitted by an eBCS AP  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1477 |
| 1062 | Antonio DeLaOlivaDelgado | 24.00 | 18 | 9.4.2.300.2 | The title of thr section is "E-BCS AP Parameters for an AP STA", there are no E-BCS AP Parameters. I suggest changing this title to "E-BCS Parameters transmitted by an AP STA" | As the comment indicate | **Revised**  The title is updated to clarify the subclause covers the field format when the element is transmitted by an eBCS AP  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1062 |
| 1594 | Xiaofei Wang | 24.00 | 18 | 9.4.2.300.2 | the title "E-BCS AP Parameters for an AP STA" is a bit confusing. | change "E-BCS AP Parameters for an AP STA" into "EBCS Parameters when transmitted by an AP". | **Revised**  The title is updated to clarify the subclause covers the field format when the element is transmitted by an eBCS AP  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1594 |
| 1086 | Bahareh Sadeghi | 24.00 | 25 | 9.4.2.300.2 | There is inconsistency in the name of "AP UL Control" field in figure 9.bc2 and the text and the caption of figure 9.bc3 | Make the naming of the field consistent. | Revised  The field name and figure title is fixed to be consistent with the description text. The field name is updated to say AP Control field since the contents of the field are not limited to UL only.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1086 |
| 1598 | Xiaofei Wang | 25.00 | 3 | 9.4.2.300.2 | Caption of Figure 9-bc3 says AP control field, please make it either "AP UL Control field" or "AP Control field" and use it consistently | as in comment | Revised  The field name and figure title is fixed to be consistent with the description text. The field name is updated to say AP Control field since the contents of the field are not limited to UL only.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1598 |
| 1484 | Stephen McCann | 21.00 | 25 | 9.4.2.300.2 | Figure 9-bc2 has a "AP UL Control" field which is not defined. | Change the field "AP UL Control" in Figure 9-bc2 to "AP Control". The same change needs to be made on P24L25 | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1484 |
| 1266 | Mark RISON | 24.00 | 25 | 9.4.2.300.2 | "The format of AP Control" should be "The format of the AP Control field" (2 fixes) | As it says in the comment | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1266 |
| 1552 | Tomoko Adachi | 24.00 | 25 | 9.4.2.300.2 | "The format of AP Control is shown in Figure 9-bc3 (AP UL Control field format)." The "AP Control" should be "AP UL Control" following Figure 9-bc2. | As in comment. | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1552 |
| 1553 | Tomoko Adachi | 25.00 | 3 | 9.4.2.300.2 | The figure title should be corrected to "Figure 9-bc3 - AP UL Control field format" following Figure 9-bc2. | As in comment. | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1553 |
| 1596 | Xiaofei Wang | 24.00 | 25 | 9.4.2.300.2 | "AP Control" should be "AP UL Control subfield" | as in comment | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1596 |
| 1439 | Osama Aboulmagd | 25.00 | 3 | 9.4.2.300.2 | Figure 9-bc3 - AP Control field format. It should be AP UL Control field format | As in comment | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1439 |
| 1112 | Fumihide Goto | 25.00 | 3 | 9.42.300.2 | "AP Control field format" should be "AP UL Control field format" | as comment | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1112 |
| 1267 | Mark RISON | 25.00 | 13 | 9.4.2.300.2 | "Throttling scheme for all destinations" is not correct as there might not be any throttling | Change to "Uniform" and change the next cell down to "Per Destination" | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1267 |
| 1127 | Hitoshi Morioka | 25.00 | 20 | 9.4.2.300.2 | Which value is used when eBCS Info frames are not transmitted? | The value for the commented case shuold be defined. | **Revised**  Agree with the comment that the description is not clear. Updated the paragraph on Next eBCS Info frame to clarify that the field is included in the element only if the AP transmits eBCS Info frames at regular intervals.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1127 |
| 1064 | Antonio DeLaOlivaDelgado | 25.00 | 21 | 9.4.2.300.3 | Wrong title of section, "eBCS Capabilities for a non-AP STA", it should be "eBCS Parameters for a non-AP STA" | As the comment indicate | **Revised**  The subclause title is updated as suggested by the comment.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1064 |
| 1257 | Mark RISON | 25.00 | 21 | 9.4.2.300.3 | " eBCS Capabilities for a non-AP STA " is not what this subclause is about | Change to "EBCS Parameters field for a non-AP STA" | **Revised**  The subclause title is updated as suggested by the comment.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1257 |
| 1479 | Stephen McCann | 26.00 | 1 | 9.4.2.300.3 | Figure 9-bc4 is redundant and should be removed. Figure 9-bc5 is adequate to define the sub-field format. | Remove figure 9-bc4 and change references to Figure 9-bc4 in the text to Figure 9-bc5 | **Accept**  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1479 |
| 1212 | Kazuto Yano | 26.00 | 5 | 9.4.2.300.3 | Figure 9-bc5 includes "No Forwarding without Embedding subfield". On the other hand, it is represented as "No Forwarding Without Embedding subfield" (i.e., "Without" begins with capital) in the main text. | Please make consistent the notation of the subfield. | **Revised**  Field name fixed to have without with upper case ‘w’. Consistent with 802.11 style guide.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1212 |
| 1272 | Mark RISON | 26.00 | 9 | 9.4.2.300.3 | "The Metadata Embedding Requested subfield is set to 1 to indicate that the non-AP STA transmitting the 9 element is requesting an eBCS AP to forward its content to a remote destination after appending metadata 10 information." -- it is not clear what "its content" is referring to here. I don't think it's the content of the element that is to be forwarded with metadata appended | Change to "The Metadata Embedding Requested subfield is set to 1 to indicate that the non-AP STA transmitting the element is requesting that an eBCS AP append metadata information when forwarding a frame from the non-AP STA to a remote destination." | **Revised**  The paragraph is updated as suggested in the comment with a few minor changes.  TGbc editor please make changes as shown in <https://mentor.ieee.org/802.11/dcn/21/11-21-0064-00-00bc-lb252-resolutions-for-cids-assigned-to-abhi-(part-1).doc> tagged as 1272 |

***TGbc editor: The baseline for the proposed changes is 802.11bc D1.0***

**9.4.2.300 E-BCS Parameters element**

***TGbc editor: please make changes to this clause as shown below:***

**9.4.2.300.1 General**

An eBCS AP advertises its capabilities by including the E-BCS Parameters element in Beacon and Probe Response frames that it transmits.[1402, 1262, 1007]

[1403, 1263]An eBCS non-AP STA optionally includes the E-BCS Parameters element in an UL eBCS frame (see 11.100.3.3 (eBCS UL operation at an eBCS non-AP STA).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Element ID | Length | Element ID  Extension | EBCS Info[1404] |

Octets: 1 1 1 variable

**Figure 9-bc1 - E-BCS Parameters element format**

The format of E-BCS Parameters element is shown in Figure 9-bc1 (E-BCS Parameters element format).

The Element ID, Length, and Element ID Extension fields are defined in 9.4.2.1 (General).

The content of an [1404]EBCS Info field is defined in 9.4.2.300.2 when the element is transmitted by an eBCS AP and defined in 9.4.2.300.3 when the element is transmitted by an eBCS non-AP STA.

* + - * 1. **EBCS Info field for an AP** [1404, 1405, 1477, 1256, 1062, 1594]

The format of an [1404]EBCS Info field when transmitted by an eBCS AP is shown in Figure 9-bc2 (Format of [1404]EBCS Info field for an AP).

|  |  |  |
| --- | --- | --- |
|  | AP Control | Next eBCS Info frame |

Octet: 1 2 (optional)

**Figure 9-bc2 - Format of EBCS Info field for an AP**[1404, 1086, 1598, 1484, 1266, 1552, 1553, 1596, 1439, 1112]

The format of AP Control is shown in Figure 9-bc3 (AP Control field format).[1086, 1598, 1484, 1266, 1552, 1553, 1596, 1439, 1112]

B0 B1 B2 B3 B4 B5 B6 B7

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | UL  Authentication Mode | UL  Limiting Mode | Metadata Embedding Supported | Next EBCS Info Frame Present | Reserved |

Bits: 2 2 1 1 2

**Figure 9-bc3 - AP Control field format**[1262, 1007, 1200]

The encoding of the UL Authentication Mode subfield is shown in Table 9-bc1 (Encoding of UL Authentication Mode subfield).

**Table 9-bc1 - Encoding of UL Authentication Mode subfield**

|  |  |  |
| --- | --- | --- |
| Subfield value | Definition | Encoding |
| 0 | No Authentication | AP forwards contents of an UL eBCS frame to the remote  destination identified in the frame without authenticating the transmitter of the frame. |
| 1 | Per Destination | AP forwards contents of an UL eBCS frame only if it is able to  authenticate the transmitter of the frame based on an established relationship with the remote destination identified in the frame. |
| 2 – 3 | Reserved |  |

The encoding of the UL Limiting Mode subfield is shown in Table 9-bc2 (Encoding of UL Limiting Mode subfield).

**Table 9-bc2 - Encoding of UL Limiting Mode subfield**[1267]

|  |  |  |
| --- | --- | --- |
| Subfield value | Definition | Encoding |
| 0 | Uniform | AP applies no restrictions or allows a fixed amount or frequency of uplink data from a non-AP STA to be forwarded to a remote destination. |
| 1 | Per destination | AP applies forwarding limits as specified by the remote destination with whom it has established a relationship. |
| 2 – 3 | Reserved |  |

The Metadata Embedding Supported subfield is set to 1 if the AP supports embedding of metadata (such as location, date/time, etc. based on the relationship with the remote destination), when a non-AP STA requests embedding, before forwarding the HLP payload carried in an UL eBCS frame to the remote destination. Otherwise, the subfield is set to 0.

[1262, 1007, 1200, 1127]If the AP transmits eBCS Info frames at regular intervals, it sets the Next EBCS Info Frame Present subfield of the AP Control field to 1 and includes the Next eBCS Info frame subfield in the element to indicate the number of TBTTs until the transmission of the next eBCS Info frame. Otherwise the Next EBCS Info Frame Present subfield of the AP Control field is set to 0 and the Next eBCS Info frame subfield is not included in the element.

* + - * 1. **EBCS Info field for a non-AP STA**[1064, 1257]

The format of an [1404]EBCS Info field when transmitted by an eBCS non-AP STA is shown in Figure 9-bc4 (Format of [1404]EBCS Info field for a non-AP STA).

[1479]

B0 B1 B2 B7

Bits: 1 1 6

|  |  |  |  |
| --- | --- | --- | --- |
|  | Metadata Embedding Requested | No Forwarding Without Embedding[1212] | Reserved |

**Figure 9-bc4 - Format of EBCS Info field for a non-AP STA**[1404]

[1272]The Metadata Embedding Requested subfield is set to 1 to indicate that the non-AP STA transmitting the element is requesting that an eBCS AP append metadata information when forwarding the higher layer contents carried in the non-AP STA’s UL eBCS frame to a remote. Otherwise, the subfield is set to 0.

When the Metadata Embedding Requested subfield is set to 1, the No Forwarding Without Embedding subfield is set to 1 to indicate that the AP can discard an uplink frame received from a non-AP STA and not forward the contents of the frame to the remote destination if it cannot append metadata (such as location, date and time, etc.) to the packet before forwarding. Otherwise, the subfield is set to 0 to indicate that AP can forward a frame to the remote destination specified in the non-AP STA’s uplink frame even if it cannot support appending the requested information or without appending any metadata.