IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Proposed Spec Text for CR | | | | |
| Date: 2021-4-1 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Xiaofei Wang | InterDigital Inc. | 2 Huntington Quad,  Melville, NY 11747  USA | +1-607-592-2727 | Xiaofei.wang@interdigital.com |
| Rui Yang |  |  |

Abstract

This submission proposes the spec text for resolutions for the CID 1008, 1009, 1010, 1065, 1067, 1129, 1130, 1406, 1483, 1487, 1489, 1490, 1491, 1557, 1560. The baseline for this comment resolution document is 802.11bc Draft 1.02.

Rev 0: first draft

Rev 1: integrated additional resolutions

***TGbc Editor: Please modify the Table 9-94 as follows (802.11bc Draft 1.01)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Element ID** | **Element ID Extension** | **Extensible** | **Fragmentable** |
|  |  |  |  |  |
| EBCS Parameters | 255 | <ANA> | Yes | No |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

[#1008, 1010, 1129, 1130]

***TGbc Editor: Please delete Clause 9.6.2.297 (EBCS Request Element) and Clause 9.6.2.298 (EBCS Response element) [#1008 1010 1129 1130]***

***TGbc Editor: Please insert the following sections after the last section in 9.4.1 [#1008 1010 1129 1130]***

9.4.1.xxx EBCS Request field

The EBCS Request field is included in an EBCS Request frame used by an EBCS non-AP STA to request one or more EBCS traffic streams from its associated AP. The format of the EBCS Request field is shown in Figure 9-xxx (EBCS Request field). [#1406]

|  |  |
| --- | --- |
|  | EBCS Request Information List |
| Octets: | variable |
| Figure 9-xxx——EBCS Request field format [#1487] | | |

The EBCS Request Information List field contains one or more EBCS Request Info subfields. [#1491]

The format of the EBCS Request Info subfield is shown in Figure 9-xxx (EBCS Request Info subfield).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | EBCS Request Info Control | | Content ID | Broadcaster MAC Address | Requested Time To Termination |
| Octets: | 1 | | 1 | 0 or 6 | 0 or 3 |
|  | | Figure 9-xxx—EBCS Request Info subfield format | | | | |

The format of the EBCS Request Info Control subfield is shown in Figure 9-xxx (EBCS Request Info Control subfield).

|  |  |  |  |
| --- | --- | --- | --- |
|  | B0 | B1 | B2-B7 |
|  | Requested Time To Termination Present | Broadcaster MAC Address Present | Reserved |
| Bits: | 1 | 1 | 6 |

Figure 9-788ei – EBCS Request Info Control subfield

A value of 1 in the Requested Time To Termination Present subfield indicates that a Requested Time To Termination subfield is present in the same EBCS Request Info subfield. A value of 0 in the Requested Time To Termination Present subfield indicates that a Requested Time To Termination subfield is not present in the same EBCS Request Info subfield.

A value of 1 in the Broadcaster MAC Address Present subfield indicates that a Broadcaster MAC Address subfield is present in the same EBCS Request Info subfield. A value of 0 in the Broadcaster MAC Address Present subfield indicates that a Broadcaster MAC Address subfield is not present in the same EBCS Request Info subfield.

The Content ID indicates the ID of the EBCS being requested.

The Broadcaster MAC Address subfield contains the MAC address of the AP from which the EBCS traffic stream is currently being received.

The Requested Time To Termination subfield indicates the requested period in number of TBTTs after which the EBCS traffic stream identified by the Content ID subfield is terminated. The value 0 is reserved. An EBCS STA does not include the Requested Time To Termination subfield in the EBCS Request Info subfield if it does not request a specific time to termination for the EBCS traffic stream identified by the Content ID subfield in the same EBCS Request Info subfield. [#1009, 1489, 1490, 1065, 1557]

9.4.1.xxx EBCS Response field

The EBCS Response field is included in an EBCS Response frame used by an EBCS AP to respond to a request for one or more EBCS traffic streams from an associated STA. The format of the EBCS Response field is shown in Figure 9-xxx (EBCS Response field format). [#1483]

|  |  |
| --- | --- |
|  | EBCS Response Information List |
| Octets: | Variable |
| Figure 9-xxx— EBCS Response field format | | |

The EBCS Response Information List field contains one or more EBCS Response Info subfields. The format of the EBCS Response Info subfield is shown in Figure 9-xxx (EBCS Response Info subfield format).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | EBCS Response Info Control | | Content ID | EBCS Request Failure Code | Time To Termination | EBCS SP Duration | EBCS SP Interval |
| Octets: | 1 | | 1 | 0 or 1 | 0 or 3 | 0 or 2 | 0 or 2 |
|  | | Figure 9-788ek - —EBCS Response Info subfield format | | | | | | |

The format of the EBCS Response Info Control subfield is shown in Figure 9-788el (EBCS Response Info Control subfield).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | B0 | B1 | B2 | B3 | B4 B7 |
|  | EBCS Request Status | Time To Termination Present | EBCS SP Duration Present | EBCS SP Interval Present | Reserved |
| Bits: | 1 | 1 | 1 | 1 | 4 |

Figure 9-788el—EBCS Response Info Control subfield

A value 0 in the EBCS Request Status subfield indicates that the request for the EBCS traffic stream identified by the Content ID subfield included in the same EBCS Response Info subfield is successful and an EBCS Request Failure Code subfield is not included in the same EBCS Response Info subfield. A value 1 in the EBCS Request Status subfield indicates that the request for the EBCS traffic stream identified by the Content ID subfield included in the same EBCS Response Info subfield is refused and an EBCS Request Failure Code subfield is included in the same EBCS Response Info subfield. [#1067 1559 1407]

A value 1 in the Time To Termination Present subfield indicates that a Time To Termination subfield is included in the same EBCS Response Info subfield. A value 0 indicates that the same EBCS Response Info subfield does not contain a Time To Termination subfield.

A value 1 in the EBCS SP Duration Present subfield indicates that an EBCS SP Duration subfield is included in the same EBCS Response Info subfield. A value 0 indicates that the same EBCS Response Info subfield does not contain an EBCS SP Duration subfield.

A value 1 in the EBCS SP Interval Present subfield indicates that an EBCS SP Interval subfield is included in the same EBCS Response Info subfield. A value 0 indicates that the same EBCS Response Info subfield does not contain an EBCS SP Interval subfield.

The Content ID subfield indicates the ID of the EBCS.

If the request for the EBCS traffic stream identified by the Content ID subfield in the same EBCS Response Info subfield is refused, the value of the EBCS Request Status Code subfield indicates one of the failure cause codes as defined in Table 9-xxx. [#1559 1407]

|  |  |  |
| --- | --- | --- |
| **Table 9-xxx**—**EBCS Request Failure Code** | | |
| **Failure Code** | **Name** | **Meaning** |
| 0 | REFUSED\_REASON\_UNSPECIFIED | Unspecified failure |
| 1 | REFUSED\_ASSOCIATION\_REQUIRED | Request for the EBCS traffic stream is refused since the traffic stream requires the requesting STA to be associated. |
| 2-255 |  | Reserved |

The Time To Termination subfield indicates the requested period in number of TBTTs after which the EBCS traffic stream identified by the Content ID subfield included in the same EBCS Response Info subfield is terminated. The value 0 is reserved. An EBCS traffic stream identified by the Content ID subfield contained in an EBCS Response Info subfield has no specific termination time if the EBCS Response Info subfield contains no Time To Termination subfield. [#1560]

The EBCS SP Duration subfield indicates the nominal duration of each EBCS service period in TUs.

The EBCS SP Interval subfield indicates the target interval between consecutive EBCS service periods for the EBCS traffic stream identified by the Content ID subfield in the same EBCS Response Info subfield in TUs.

***TGbc Editor: Please modify Clause 9.6.34.2 and 9.6.34.3 as follows***

* + - 1. EBCS Request Frame format

The EBCS Request frame is an Action frame of category EBCS. The EBCS Request frame is transmitted by a STA to its associated EBCS AP to request one or more EBCS services. The Action field of an EBCS Request frame contains the information shown in Table 9-526n (EBCS Request Setup frame Action field format).

|  |  |
| --- | --- |
| Table 9-526n— EBCS Request frame Action field format | |
| Order | Information |
| 1 | Category |
| 2 | EBCS Action |
| 3 | Dialog Token |
| 4 | EBCS Request (see 9.4.1.xxx (EBCS Request field)) |

The Category field is defined in Table 9-51 (Category Values).

The EBCS Action field is as defined in Table 9-526km E—BCS Action field values to indicate an EBCS Request.

The Dialog Token field is defined in 9.4.1.12 (Dialog Token field).

In an EBCS Request frame, the Dialog Token field is set to a nonzero value chosen by the transmitting STA to identify the request/response transaction.

The EBCS Request field is defined in 9.4.1.xxx (EBCS Request field).

* + - 1. EBCS Response Frame format

The EBCS Response frame is an Action frame of category EBCS. The EBCS Response frame is transmitted by an EBCS AP to an associated EBCS STA in response to an EBCS Request frame received from the EBCS STA. The Action field of an EBCS Response frame contains the information shown in Table 9-526o (EBCS Response Setup frame Action field format).

|  |  |
| --- | --- |
| Table 9–526o— EBCS Response frame Action field format | |
| Field | Information |
| 1 | Category |
| 2 | EBCS Action |
| 3 | Dialog Token |
| 4 | EBCS Response (see 9.4.1.xxx (EBCS Response field)) |

The Category field is defined in Table 9-51 (Category Values)**.**

The EBCS Action field is set to 0 as defined in Table 9-526km E—BCS Action field values.

The Dialog Token field is defined in 9.4.1.12 (Dialog Token field).

In an EBCS Response frame, the Dialog Token field is set to a value contained in the Dialog Token field in the corresponding received EBCS Request frame.

The EBCS Response field is defined in 9.4.1.xxx (EBCS Response field).

***TGbc Editor: Please modify Clause 11.100.4 as follows***

* + 1. EBCS Negotiation Procedure for Associated STAs

An EBCS STA may transmit an EBCS Request frame to its associated EBCS AP to request one or more EBCSs provided by the EBCS AP. If an EBCS AP has indicated that one or more EBCSs require association, an EBCS STA shall associate with the EBCS AP and subsequently transmit an EBCS Request frame to request one or more of such EBCSs. A request for one or more EBCSs that does not require association may also be included in the same EBCS Request frame. When requesting an EBCS using an EBCS Request frame, an EBCS STA may request an EBCS with a certain time to termination as indicated in Requested Time To Termination field included in the EBCS Request frame. This element optionally allows the non-AP STA to provide the MAC address of the AP currently serving the EBCS stream, which may not be the same as the one receiving the request.

After receiving an EBCS Request frame from an associated EBCS STA, an EBCS AP shall respond with an EBCS Response frame. If the EBCS AP indicates in the EBCS Response frame that the request for an EBCS is successful, it may include a Time To Termination field to indicate the time to termination for the EBCS. It may also include EBCS service period information and the frequency of the EBCS service periods for the EBCS in the EBCS Response frame.

An EBCS STA that receives an EBCS Response frame may negotiate for the extension of an EBCS traffic stream if the EBCS traffic stream indicated in one of the EBCS Response Info subfields terminates earlier than desired. The EBCS STA may negotiate the extension of the EBCS traffic stream by transmitting another EBCS Request frame to its associated AP by including a desired value in the Requested Time To Termination subfield in the EBCS Request Info subfield whose Content ID subfield corresponds to the EBCS traffic stream. [#1560]

NOTE 1—Which values of a received Time To Termination subfield are considered desirable is determined by the receiving STA and is beyond the scope of this standard.

NOTE 2—The EBCS transmitter of an EBCS traffic stream has the authority to determine the time to termination of the EBCS traffic stream.