IEEE P802.11
Wireless LANs

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| LB257 Resolution for CID 2179 |
| **Date:** November 11, 2021 |
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Abstract

This submission proposes resolution for CID 2179 received from LB257: P802.11bc D2.0 Working Group Recirculation Ballot.

Note: The changes shown are based on 802.11bc draft 2.0.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Fix some issues about the Authentication Info field.
* Rev 2: Further improve the text.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause Number(C)** | **Page(C)** | **Line(C)** | **Comment** | **Proposed Change** | **Resolution** |
| 2179 | Lei Huang | 11.55.2 | 18 |  | For an associated STA receiving EBCS traffic streams from current AP, if it transits to a new AP due to mobility, it has to re-associate with the new AP, and this would introduce a large transition delay. | Fast BSS Transition (FT) procedure may be a solution to reduce the transition delay. | **Revised.**Agree with the commenter. The corresponding signaling and descriptions are added.TGbc editor to make the changes shown in 11-21/1830r2. |

*Editor: Please insert the following line in Table 9-92 and align Element ID Extension:*

**9.4 Management and Extension frame body components**

**9.4.2 Elements**

**9.4.2.1 General**

**Table 9-92—Element IDs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Element ID** | **Element ID Extension** | **Extensible** | **Fragmentable** |
| EBCS Parameters (see [9.4.2.296](#bookmark79) [(EBCS Parame-](#bookmark79) [ters element](#bookmark79))) | 255 | [ANA] | Yes | No |
| EBCS TIM (see [9.4.2.297 (EBCS](#bookmark81) [TIM element](#bookmark81))) | 255 | [ANA] | Yes | No |
| (#2179) EBCS Transition (see 9.4.2.xx (EBCS Transition element)) | (#2179) 255 | (#2179)[ANA] | (#2179) Yes | (#2179) Yes |

*Editor: Please insert the following subclause after subclause 9.4.2.297 (EBCS TIM element)：*

**(#2179) 9.4.2.xxx EBCS Transition element (ETE)**

(#2179) The EBCS Transition element is used by an associated EBCS STA to request for EBCS transition information and by an EBCS AP to respond to a request for EBCS transition information from an associated EBCS STA. The format of this element is shown in Figure 9-788xx (ETE format).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element ID | Length | Element ID Extension | Content ID | Enhanced Broadcast Service Response Control | Transition Time Info(optional) | Authentication Info (optional) |

Octets: 1 1 1 1 1 0 or 7 variable

**(#2179) Figure 9-788xx—ETE format**

(#2179) The Element ID, Length, and Element ID Extension fields are defined in 9.4.2.1 (General).

(#2179) The Content ID subfield indicates the identifier of the content.

(#2179) The Enhanced Broadcast Service Response Control subfield is shown in Figure 9-788yy (Enhanced Broadcast Service Response Control subfield).

B0 B1 B2 B7

|  |  |  |
| --- | --- | --- |
| Transition Time Info Present | Authentication Info Present | Reserved |

Bits: 1 1 6

**(#2179) Figure 9-788yy—Enhanced Broadcast Service Response Control subfield format**

(#2179) A value of 1 in the Transition Time Info Present subfield indicates that a Transition Time Info field is included in the ETE. A value of 0 indicates that the ETE does not contain a Transition Time Info field.

(#2179) A value of 1 in the Authentication Info Present subfield indicates that an Authentication Info field is included in the ETE. A value of 0 indicates that the ETE does not contain an Authentication Info field.

(#2179) The Transition Time Info field indicates the EBCS time information as shown in Figure 9-788zz.

|  |  |  |
| --- | --- | --- |
| Time To Termination | EBCS SP Duration | EBCS SP Interval |

Octets: 3 2 2

 **(#2179) Figure 9-788zz—Transition Time Info field format**

(#2179) The Time To Termination, EBCS SP Duration and EBCS SP Interval subfields are defined in 9.4.1.69 (EBCS Response field).

(#2179) The Authentication Info field is used to authenticate the EBCS traffic streams and shown in Figure 9-xx (Authentication Info subfield format).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Content Authentication Algorithm | Content Information Control | Title Length | Title | Next TX Schedule (optional) | Allowable Time Difference (optional) | Certificate Length (optional) | Certificate(optional) |

Octets: 1 1 1 variable 0 or 2 0 or 2 0 or 2 variable

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| HCFA Base Key (optional) | Previous Period HCFA Base Key 0 Sequence (optional) | Previous Period HCFA Base Key 0 (optional) | Previous Period HCFA Base Key 1 Sequence (optional) | Previous Period HCFA Base Key 1 (optional) | HCFA KeyChange Interval (optional) |

Octets: 0 or 32 0 or 1 0 or 32 0 or 1 0 or 32 0 or 1

|  |  |  |  |
| --- | --- | --- | --- |
| Number Of Instant Authenticators (optional) | Instant Authenticator List (optional) | Service URL Length (optional) | Service URL(optional) |

Octets: 0 or 1 *n* x 33 0 or 1 variable

**(#2178, #2179) Figure 9-xx Authentication Info subfield format**

(#2179) Each of the subfields, and the allowed combinations of subfields, are defined in 9.6.7.54 (EBCS Info frame format).

*Editor: Please insert the following line in Table 9-479(FT Request frame body)：*

**9.6 Action frame format details**

**9.6.8 FT Action frame details**

**9.6.8.2 FT Request frame**

**Table 9-479—FT Request frame body**

|  |  |  |
| --- | --- | --- |
| **Order** | **Information** | **Notes** |
| 1 | RSN | A RSNE is present if dot11RSNAActivated is true. |
| 2 | Mobility Domain | The MDE is present. |
| 3 | Fast BSS Transition | An FTE is present if dot11RSNAActivated is true. |
| (#2179) <ANA> | (#2179) EBCS Transition | (#2179) The ETE is present. |

*Editor: Please insert the following line in Table 9-480(FT Response frame body)：*

**9.6.8.3 FT Response frame**

**Table 9-480—FT Response frame body**

|  |  |  |
| --- | --- | --- |
| **Order** | **Information** | **Notes** |
| 1 | RSN | A RSNE is present if dot11RSNAActivated is true. |
| 2 | Mobility Domain | The MDE is present. |
| 3 | Fast BSS Transition | An FTE is present if dot11RSNAActivated is true. |
| (#2179) <ANA> | (#2179) EBCS Transition | (#2179) The ETE is present. |

*Editor: Please insert the following subclauses in clause 11.55.2 (EBCS DL procedures):*

**11.55 Enhanced Broadcast Service procedures**

**(#2179)** **11.55.2.x EBCS DL transition for an associated EBCS non-AP STA**

(#2179) In mobility scenario, an associated EBCS STA may move out of the coverage of the current EBCS AP. The EBCS DL Transition procedure allows an associated EBCS STA to perform fast transition between EBCS APs in order to ensure EBCS traffic streams continuity. The frame sequence for an associated EBCS STA is shown in Figure 11-61x (EBCS DL transition frame sequence for an associated EBCS STA).



**(#2179) Figure 11-61x EBCS DL transition frame sequence for an associated EBCS STA**

(#2179) For an associated EBCS STA, it requests to obtain EBCS traffic streams from the current EBCS AP by transmitting an EBCS Content Request frame. When the associated EBCS STA is about to leave the coverage of current EBCS AP, it starts to perform fast BSS transition by transmitting a FT Request frame. The FT Request frame can include an ETE in order to request the target EBCS AP’s EBCS related information, for example, Content ID, Transition Time Info and Authentication Info.

(#2179) After receiving a FT Request frame from an associated EBCS STA, the EBCS AP shall respond with a FT Response frame that includes a Transition Time Info field to indicate the Time to Termination, EBCS SP duration and EBCS SP interval for the following EBCS traffic streams. It may also include an Authentication Info field to indicate the authentication algorithm related information for the following EBCS traffic streams. During STA’s transition, the target EBCS AP does not transmit EBCS traffic stream. After successful transition, the target EBCS AP should start transmission of EBCS traffic stream by being requested FT Request frame.