IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB204 Comment Resolutions for CIDs Regarding Reduced Neighbor Report | | | | |
| Date: 2015-01-08 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Xiaofei WANG | InterDigital Communications, Inc. |  |  | xiaofei.wang@interdigital.com |
| Joseph LEVY | InterDigital Communications, Inc. | 2 Huntington Quadrangle Melville, NY 11747 | +1.516.835.9353 (m) | joseph.levy@interdigital.com |

Abstract

This document provides proposed text changes to the draft as a result for comment resolutions for CIDs 6126, 6139 and 6140. These comments address Clause 8.4.2.169. The baseline for this comment resolution document is 802.11ai Draft 3.1.

**Red Lined Text Changes for the Proposed Resolutions:**

**CID 6126, 6139, 6140**

**Instructions for Editor: please modify the text of 8.4.2.169 with the following changes:**

* Reduced Neighbor Report element [CID 5133]
* Neighbor AP Information field

***Change as follows:***

The Neighbor AP Information field specifies TBTT and other information related to a group of neighbor APs on one channel. See Figure 8-571 (Neighbor AP Information field format). [CID 2661][REVmc][CID 6881]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | TBTT Information Header | Operating Class | Channel Number | TBTT Information fields  (contains one or more TBTT Information fields) [CID 6008] |
| Octets: | 2 | 1 | 1 | variable |
| * Neighbor AP Information field format | | | | |

[14/0836r3]

2

.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | B0 B1 | B2 | B3 | B4 B7 | B8 B15 |
| [REVmc] | TBTT Information Field Type | Filtered Neighbor AP | Usage Indicator | TBTT Information Count | TBTT Information Length |
| Bits: | 2 | 1 | 1 | 4 | 8 |
| * TBTT Information Header subfield | | | | | |

The Filtered Neighbor AP subfield is 1 bit in length. It is set to 1 if the SSID of APs in this Neighbor AP Information field matches the specific SSID in the Probe Request frame. It is set to 0 otherwise. This subfield is valid only in the Reduced Neighbor AP Report element in a Probe Response frame and is reserved otherwise. [REVmc][CID 6007]

The Usage Indicator subfield is 1 bit in length. When the Usage Indicator subfield is equal to 0, it indicates that the Neighbor AP Information field is informative and may be used to assist STAs in AP discovery. When the Usage Indicator subfield is equal to 1, it indicates that the transmitting AP recommends that STAs switch to another channel, another band, or Neighbor APs specified in the Neighbor AP Information field.

The TBTT Information Count subfield[CID 2012] is 4 bits in length and contains the number of TBTT Information fields that are included in the Neighbor AP Information field, minus one. A value of 0 indicates one TBTT Information field is present. [REVmc]

The TBTT Information Length subfield[CID 2012] is 1 octet in length and contains the length in octets of the TBTT Information field that is included in the Neighbor AP Information field.

When the TBTT Information Field Type is equal to 1, the TBTT Information Length subfield is interpreted as follows:

* [CID 2707, 2412, 2663, 3369, 2709, 2895, 3042, 3347] [CID 2519, 2819][REVmc][14/0917r2, CIDs 4878, 4522, 4876, 4521]When the value of TBTT Information Length is 1, the TBTT Information field contains the AP’s Next TBTT Offset (ANTO) subfield.
* When the TBTT Information Length is 5, the TBTT Information field contains the AP’s Next TBTT Offset subfield and the Short SSID subfield.
* When the TBTT Information Length is 7, the TBTT Information field contains the AP’s Next TBTT Offset subfield and the BSSID subfield.
* When the TBTT Information Length is 11, the TBTT information field contains the AP’s Next TBTT Offset subfield, the BSSID subfield and the Short SSID subfield.
* Other values of the TBTT Information Length are reserved.

Operating Class [CID 2012] field is 1 octet in length and indicates the band and bandwidth of the primary channel of the APs in this Neighbor AP Information field. Valid values of Operating Class are shown in Table E-4 (Global operating classes). [REVmc]

Channel Number[CID 2012] field is 1 octet in length and indicates the last known primary channel of the APs in this Neighbor AP Information field. Channel Number is defined within an Operating Class as shown in Table E-4 (Global operating classes).

[REVmc]The format of TBTT Information field when the TBTT Information Field Type is equal to 0 is shown in Figure 8-573 (TBTT Information field).

|  |  |  |
| --- | --- | --- |
| [14/0836r3] | TBTT Offset | Optional Subelements |
| Octets: | 1 | 0 or n |
| * TBTT Information field format when TBTT Information Field Type is equal to 0 | | | |

The TBTT Offset in TUs subfield is 1 octet in length and indicates the offset in TUs, rounded down to the nearest TU, to next TBTT of an AP from the immediately prior TBTT of the AP that transmits this element. The value 254 is used to indicate an offset of 254 TUs or higher. The value 255 is used to indicate an unknown offset value. [REVmc and CID 4238][CIDs 6286, 6883, 6047, 6494]

The format of TBTT Information field when TBTT Information Field Type is equal to 1 is shown in Figure 8-573 (TBTT Information field format when TBTT Information Field Type is equal to 1).

|  |  |  |  |
| --- | --- | --- | --- |
| [14/0836r3] | AP’s Next TBTT Offset | BSSID | Short-SSID |
| Octets: | 1 | 0 or 6 | 0 or 4 |
| * TBTT Information field format when TBTT Information Field Type is equal to 1 | | | |

The AP’s Next TBTT Offset (ANTO) subfield in the TBTT Information field indicates the time offset in number of TUs, rounded down to the nearest TU, between the transmission of the current frame and the next TBTT of a neighbor AP. If the BSSID or Short-SSID subfield is present, the neighbor AP is identified by the BSSID or the Short SSID. The value 254 is used to indicate an offset of 254 TUs or higher. The value 255 is used to indicate an unknown offset value.

The Short-SSID is defined as below.

Short-SSID = CRC-32(SSID)

where:

SSID is the SSID field of the SSID element of the neighboring AP [14/0836r3]

**References:**

1. **IEEE 802.11-14/1351r15, TGai LB204 comments on D3.0, Marc Emmelmann, November 2014**
2. **IEEE P802.11ai™/D3.1, November 2014**