IEEE P802.11
Wireless LANs

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| --- |
| Resolution for CIDs 3151 and 3269 |
| Date: 2014-09-08 |
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|  |  |  |  |  |

Abstract

This document provides resolution for the following two CIDs:

CID #3151

|  |  |
| --- | --- |
| To prevent multiple FTM sessions from being started by a STA to an AP with multiple BSSIDs, the AP should advertise the fact that there are multiple BSSIDs associated with it. | Please clarify. |

CID #3269

|  |  |
| --- | --- |
| When there are multiple virtual devices colocated within a single device, these multiple devices share the same location. A STA may attempt to perform the FTM procedure with each of these multiple devices, which is a waste of resource. | Provide a mechanism to enable a STA to perform the FTM procedure with only one of the multiple virtual devices that share the same location. |

Discussion:

Multiple BSSIDs may be co-located in one physical AP device. When that is the case, the AP may choose to indicate it in the LCI Report.

**Editor: add the following line to table 8-124 and insert the text below to section 8.4.2.21.10 (Location Configuration Information report):**

**Table 8-124—Subelement IDs for Location Configuration Information Report**

|  |  |  |
| --- | --- | --- |
| Subelement ID | Name  | Extensible |
| 0 | LCI | No |
| 1 | Azimuth Report | Yes |
| 2 | Originator Requesting STA MAC Address | No |
| 3 | Target MAC Address | No |
| 4 | Z Subelement |  |
| 5 | Relative Location Error | Yes |
| 6 | Usage Rules | Yes |
| 7 | Co-Located BSSID list | Yes |
| 8-220 | Reserved |  |
| 221 | Vendor Specific |  |
| 222-255 | Reserved |  |

The Co-Located BSSID list subelement is used to report the list of BSSIDs of the BSSs which share the same antenna connector with the reporting STA.

The format of the Co-Located BSSID list subelement is shown in Figure yyy:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Subelement ID | Length | MaxBSSIDIndicator | BSSID #1 (optional) | … | BSSID #n (optional) |

Octets: 1 1 1 6 6

Figure yyy: Co-Located BSSID list subelement format

The Subelement ID field is equal to the value for Co-Located BSSID list in Table 8-124 (Subelement IDs for Location Configuration Information Report).

The Length field is defined in 8.4.3 (Subelements).

The MaxBSSID Indicator field is as defined in Section 8.4.2.45. When set to a non-zero value, it indicates the maximum possible number of BSSs, including the reference BSS, which share the same antenna connector and have the same 48-(MaxBSSID indicator field) MSBs of the BSSIDs. When the BSSIDs of the co-located BSSs are configured at the reporting STA but not represented by the MaxBSSID Indicator field, the BSSID fields are present in the Co-located BSSID List subelement to provide an explicit list of such BSSID values.

When the Max BSSID Indicator field is equal to zero, the BSSID fields contain an explicit list of the BSSID values of the BSSs which share the same antenna connector with the reporting STA.

Note: For example, if there are 4 BSSs which share the same antenna connector and their BSSIDs end with 16, 24, 30 and 31, and the range of MAC addresses ending with 16-31 inclusive are not assigned to other BSSs using a different antenna connector, then this list of 4 BSSIDs can be indicated with a value of 5 in the MaxBSSID Indicator field. Otherwise, the MaxBSSID Indicator field is set to zero and the BSSIDs are listed separately.

**Editor: Modify section 8.6.8.33 Fine Timing Measurement frame format as follows:**

The LCI Report field is optionally present. If present, it contains a Measurement Report element with Measurement Type equal to LCI report (see Table 8-115 (Measurement Type definitions for measurement reports)), which either indicates the LCI of the transmitting STA and includes the Z subelement or indicates an unknown LCI (see 10.24.6.7 (LCI and Location Civic retrieval using fine timing measurement procedure)). The Late, Incapable and Refused bits in the Measurement Report Mode field are set to 0. The Co-Located BSSID list subelement is present in the Measurement Report element with Measurement Type equal to LCI report, when there is at least one other BSS which is co-located with the reporting BSS.

**Editor: Modify section 8.4.2.36 Neighbor Report element as follows:**

A Measurement Report subelement with Measurement Type equal to LCI report (see Table 8-115

(Measurement Type definitions for measurement reports)) is optionally present. If present, the subelement

has the same format as the Measurement Report element with Measurement Type equal to LCI report.The

subelement indicates the LCI of the neighbor STA and further includes the Z subelement, or the subelement

indicates an unknown LCI (see 10.24.6.7 (LCI and Location Civic retrieval using fine timing measurement

procedure)). The Late, Incapable and Refused bits in the Measurement Report Mode field are set to 0. The Co-Located BSSID list subelement is present in the Measurement Report subelement of the Neighbor Report element, when there is at least one other BSS which is co-located with the reporting BSS.

***Editor: Modify section 8.4.4.12 AP Geospatial Location ANQP-element as follows:***

|  |  |  |
| --- | --- | --- |
| Info ID | Length | Location Configuration Report |

Octets: 2 2 2 or variable

**Figure 8-597—AP Geospatial Location ANQP-element format**

The Location Configuration Report is a variable length field and the format is provided in 8.4.2.21.10 (Location Configuration Information report)..

The Z subelement may be present in the Location Configuration Report, when it is used in the AP Geospatial Location ANQP element. The Co-Located BSSID list subelement may also be present when there is at least one other BSS which is co-located with the reporting BSS.

**References:**