IEEE P802.11
Wireless LANs

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| Resolution to 11ad CIDs |
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Abstract

Proposes resolution to CIDs 3232, 3499, and 3692.

The proposed changes are in reference to Draft P802.11REVmc\_D3.2.

R2: CID 3692 agreed resolution.

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| 3692 | 1525.13 | 10.1.4.3.3 | "perform the basic access procedure defined ... prior to the transmission": as if we didn't know the definition was prior to the transmission. It also is unclear whether this procedure is to be followed just once or each time a Probe Request frame is to be transmitted, and exactly why there may be more than one transmission of a Probe Request frame. | Since "prior to the transmission" is not part of the procedure defined in 9.3.4.2, this really is a run-on sentence. Replace "9.3.4.2 (Basic access) prior to the transmission of each of one or more Probe Request frames, each with an SSID indicated in the SSID List and the BSSID from the MLME-SCAN.request primitive." with "9.3.4.2 (Basic access). Perform this procedure prior to each transmission of a Probe Request frame. Each of these transmitted Probe Request frames shall contain an SSID that was included in the SSID List parameter and the BSSID from the BSSID parameter of the received MLME-SCAN.request primitive. One Probe Request frame shall be transmitted for each SSID included in the received SSID List parameter.". |

**Proposed resolution:** Revised

**Discussion**: Language can be improved in certain places. Also, need to align the language for both DMG and non-DMG. Finally, note that the last sentence in the proposed change “One Probe Request frame shall be transmitted for each SSID included in the received SSID List parameter” is not a mandatory requirement and hence should not be added.

**10.1.4.3.2 Active scanning procedure for a non-DMG STA**

*Change the noted paragraph under item (c) as follows, renumbering the bullets as appropriate*

c) Send a probe request to the broadcast destination address. The probe request is sent with the SSID and BSSID from the received(#3680) MLME-SCAN.request primitive.

d) When the SSID List is present in the MLME-SCAN.request primitive, send zero or more probe requests to the broadcast destination address. Each probe request is sent with an SSID indicated in the SSID List and the BSSID from the MLME-SCAN.request primitive. The basic access procedure (9.3.4.2) is performed prior to each probe request transmission.

**10.1.4.3.3 Active scanning procedure for a DMG STA**

*Change the noted paragraph under item (f) as follows*

f) If an SSW-Feedback frame is transmitted or received in (#3408)step d), then:

1) Send a probe request to the broadcast destination address or:

* Following the transmission of an SSW-Feedback frame, send a probe request to the MAC address of the STA addressed by the SSW-Feedback frame.(#3690)
* Optionally, following the reception of an SSW-Feedback frame, send a probe request to the MAC address of the STA that transmitted the SSW-Feedback frame.

In all these cases, the probe request is sent with the SSID and BSSID from the received(#3680) MLME-SCAN.request primitive and includes the DMG Capabilities element. The basic access procedure (9.3.4.2) is performed prior to the probe request transmission.

2) When the SSID List is present in the MLME-SCAN.request primitive, send zero or more probe requests to the broadcast destination address. Each probe request is sent with an SSID indicated in the SSID List and the BSSID from the received(#3680) MLME-SCAN.request primitive and includes the DMG Capabilities element. The basic access procedure (9.3.4.2) is performed prior to each probe request transmission.

*Change the noted paragraph under item (g) as follows*

g) If an SSW-Feedback frame is neither transmitted nor received in (#3408)step d), then :

1) Optionally send a probe request to the broadcast destination address. The probe request is sent with the SSID and BSSID from the received(#3680) MLME-SCAN.request primitive and includes the DMG Capabilities element. The basic access procedure (9.3.4.2) is performed prior to the probe request transmission.

2) When the SSID List is present in the MLME-SCAN.request primitive, send zero or more probe requests to the broadcast destination address. Each probe request is sent with an SSID indicated in the SSID List and the BSSID from the MLME-SCAN.request primitive and includes the DMG Capabilities element. The basic access procedure (9.3.4.2) is performed prior to each probe request transmission.

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| --- | --- | --- | --- | --- |
| 3232 | 1009.01 | 8.4.2.136 | It is not stated anywhere which frame(s) are used to carry the Awake Window element. | Add AwakeWindow to DMG Beacon and Announce frame body (Table 8-49 and Table 8-401), or state in 8.4.2.136 that the element can be carried in DMG Beacon and Announce frames, or other solution. |

**Proposed resolution:** Revised

**Discussion**: Make changes to indicated frames. In addition, the Request element is included in Information Request and Information Response frames, but that is not indicated in 8.4.2.10 – hence, need to fix that too.

**Proposed changes:**

**8.3.4.1 DMG Beacon**

*Insert the following row in (****Table 8-49—DMG Beacon frame body****), renumbering as appropriate*

|  |  |  |
| --- | --- | --- |
| 15 | Awake Window | The Awake Window element is optionally present. If present, this element specifies the characteristics of the awake window of a CBAP (see 10.2.6). |

**8.4.2.10 Request element**

*Change the first paragraph as follows*

This element is placed in a Probe Request frame or Information Request frame to request that the responding STA include the requested information in the Probe Response frame or Information Response frame, respectively. The format of the element is as shown in Figure 8-132 (Request element).

*Change the third paragraph as follows*

The Requested Element IDs are the list of elements that are requested to be included in the Probe Response frame or Information Response frame. The Requested Element IDs are listed in order of increasing element ID.

**8.6.22.2 Announce frame format**

*Change (***Table 8-401—Announce frame Action field format***) as follows*

|  |  |  |
| --- | --- | --- |
| Order | Information | Notes |
| 1 | Category | The Category field is defined in 8.4.1.11 (Action field) |
| 2 | Unprotected DMG Action | The Unprotected DMG Action field is defined in 8.6.22.1 |
| 3 | Timestamp | The Timestamp field is defined in 8.4.1.10 (Timestamp field) |
| 4 | Beacon Interval | The Beacon Interval field is defined in 8.4.1.3 (Beacon Interval field) and specifies the duration of the beacon interval of the BSS |
| 5 | SSID (optional) | If present, the SSID element specifies the SSID of the BSS |
| 6 | Extended Schedule (optional) | If present, the Extended Schedule element specifies the schedule of the BSS |
| 7 | DMG Capabilities (optional) | If present, the DMG Capabilities element specifies capabilities of the transmitting STA |
| 8 | RSN (optional) | If present, the RSN element indicates that security is required in the BSS |
| 9 | Multiple BSSID (optional) | If present, the Multiple BSSID element signals all the BSSIDs in use by the BSS. |
| 10 | DMG Operation (optional) | If present, the DMG Operation element specifies the operational parameters of the BSS. |
| 11 | Next DMG ATI (optional) | If present, the Next DMG ATI element specifies the  |
| 12 | Multi-band (optional) |  |
| 13 | Awake Window (optional) |  |
| 14 | DMG BSS Parameter Change (optional) |  |
| 15 | BeamLink Maintenance (optional) |  |
| 16 | Multiple MAC Sublayers (optional) |  |
| 17 | ECAPC Policy (optional) |  |
| 18 | Cluster Report (optional) |  |
| 19 | Next PCP List (optional) |  |
| 20 | PCP Handover (optional) |  |
| 21 | STA Availability (optional) |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3499 | 1211.28 | 8.6.22.2 | "Multiple elements can appear in this frame." Like what? Anything? This is underconstrained. List what can, and makes sense, to put here; or something | Clarify what elements are sensible or expected in this frame. |

**Proposed resolution:** Revised

**Discussion**: resolved as part of CID3232