IEEE P802.11
Wireless LANs

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| Resolution for Assigned CIDs |
| Date: 2023-07-01 |
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|  |  |  |  |  |

Abstract

This submission proposes resolution for CIDs received in LB273 (REVme D3.0):

***TGm editor: The baseline for this document is REVme D3.0***

**Revisions:**

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGm Draft. This introduction is not part of the adopted material.

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| **CID** | **Clause**  | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 4010 | 11.21.15 | 2605 | 52 | It seems the flow identifier is shared between TWT agreements meant for infra and those meant for non-infra (i.e., p2p TWT) | Please clarify | **Revised**Agree in principle, we clarify the flow identifier between the p2p TWT and other TWT agreements for infra where the TWT Flow Identifier that is used in the TWT Teardown frame is the same for p2p TWT and infra TWT. Hence, we clarify that aspect. Also, we address a similar ambiguity in the spec related to the interpretation of the Responder PM bit between different schedules.**TGm editor, please implement changes as shown in 1092r2 tagged as 4010** |
| 4006 | 9.4.2.84 | 1120 | 24 | There are different modes of operations within the channel usage framework. Furthermore, there plenty of reserved values available (for 'Usage Mode' field) which can be used to define new modes in the future. The standard must provide a simple mechanism to ensure backward compatibility without requiring to define capability indication for each new mode that can be defined in the future. | As in comment | **Revised** Agree in principle, we provide a simple mechanism to ensure backward compatibility for new usage modes that may be defined by the Channel Usage framework. Hence, we define a new Usage Mode field value so that the recepient can indicate in the response that the received request is unknown.**TGm editor, please implement changes as shown in 1092r2 tagged as 4006** |
| ~~4009~~ | ~~11.21.15~~ | ~~2604~~ | ~~36~~ | ~~This paragraph does not capture the functionalities provided by the Channel usage procedures~~ | ~~Suggest to reword this paragraph as follows: "The Channel usage procedures assist the STA that operates a noninfrastructure BSS or an off-channel TDLS direct link to better coexist with the infrastructure network by exchanging Channel usage Request and Response frames."~~ | **~~Revised~~**~~Agree in principle, we reword the paragraph based on the suggestion to capture the functionalities provided by the Channel usage procedures.~~ **~~TGm editor, please implement changes as shown in 1092r2 tagged as 4009~~** |

**9.4.2.84 Channel Usage element**

***TGm editor: Please update Table 9-266 in this subclause as shown below:***

Table 9-266—Usage Mode definitions [4006]

|  |  |
| --- | --- |
| **Value** | **Usage Mode** |
| 0 | Noninfrastructure IEEE 802.11 network |
| 1 | Off-channel TDLS direct link |
| 2 | Noninfrastructure IEEE 802.11 network in which none of the APs belonging to the same ESS operate on the channels identified by the Channel Entry field |
| 3 | Peer-to-peer link indication |
| -254 | Reserved |
| 255 | Unknown request |

**11.21.15 Channel usage procedures**

TGm editor: please replace the paragraph “Channel usage information is a set of channels provided by an AP to non-AP STAs for operation of a noninfrastructure BSS or an off-channel TDLS direct link. The channel usage information provided by the AP to the non-AP STA is to advise the STA on how to coexist with the infrastructure network.” by the following paragraph:

(#4009) The channel usage procedures may be used to assist the STA that operates a noninfrastructure BSS or an off-channel TDLS direct link to better coexist with the infrastructure network by exchanging Channel Usage Request and Response frames.

TGm editor: please insert the following paragraph after the paragraph starting with “A non-AP STA may teardown a peer-to-peer TWT agreement by sending a TWT Teardown frame”:

(#4010) NOTE -  The total number of peer-to-peer TWT agreements and of individual TWT agreements between a non-AP STA and its AP can be up to 8, since the TWT Flow Identifier field of the TWT element comprises 3 bits.

TGm editor: please insert the following text into the paragraph starting with “When the Channel Usage element in a received Probe Request or Channel Usage Request frame”:

When the Channel Usage element in a received Probe Request or Channel Usage Request frame includes one or more Operating Class/Channel Pair fields, the Operating Class/Channel Pair field(s) indicate(s) the requested non-AP STA operating class/channels for the usage mode indicated in the frame. (#4006) If the Usage Mode field in the Channel Usage element carries a value that is unknown to the AP, the AP should send in the Probe Response or Channel Usage Response frame a Channel Usage element without a Channel Entry field and with a Usage Mode field value indicating Unknown request, to inform the client that the AP does not support the usage mode indicated in the request. Usage mode Unknown request shall not be used in a Probe Request frame, in a Channel Usage Request frame, or in a Channel Usage Response frame that is sent in response to a Channel Usage Request frame that includes a Channel Usage element with usage modes 0 to 3.

* TWT element

***TGm*** editor: please modify the following Figure 9-759 – Control field format as follows:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 | B2 B3 | B4 | B5 | B6 |
|  | NDP Paging Indicator/ Unavailability Mode | Responder PM Mode | Negotiation Type | TWT Information Frame Disabled | Wake Duration Unit | Reserved |
| Bits: | 1 | 1 | 2 | 1 | 1 | 2 |
| * Control field format(11ax) [4010]
 |

TGm editor: please insert the following paragraph after the paragraph starting with “The Wake Duration Unit”:

(#4010) The NDP Paging field is present if the NDP Paging Indicator/Unavailability Mode subfield is equal to 1 and the STA sending the frame carrying the TWT element is an S1G STA; otherwise, the NDP Paging field is not present.

**26.8.2 Individual TWT agreements**

TGm editor: please update the following paragraph as follows:

* (#4010) Shall set the Implicit subfield to 1 and the NDP Paging Indicator/Unavailability Mode subfield to 0 in all TWT elements that it transmits during the TWT setup.

**26.8.3.2 Rules for TWT scheduling AP**

TGm editor: please update the following paragraph as follows:

(#4010) The TWT scheduling AP shall set the Negotiation Type subfield to 2 and may set the Responder PM Mode subfield to 0 in the TWT element (see 10.46.7 (TWT Sleep setup)). The TWT scheduling AP may set the NDP Paging Indicator/Unavailability Mode subfield to 0 or 1 subject to the additional rules defined in this subclause if the Broadcast TWT ID subfield is equal to 0 and the Responder PM Mode field is equal to 1, otherwise, the NDP Paging Indicator/Unavailability Mode subfield is reserved for a TWT scheduling AP.

TGm editor: please insert the following paragraph after the paragraph starting with “A TWT scheduling AP that has advertised a broadcast TWT with a Broadcast TWT ID equal to 0 shallschedule the following”:

(#4010) If a TWT scheduling AP has advertised a TWT element that carries one or more broadcast TWT parameter sets with a Broadcast TWT ID field equal to 0 and a Responder PM Mode field equal to 1, then:

* If the NDP Paging Indicator/Unavailability Mode subfield is set to 0, the AP may be unavailable outside of these broadcast TWT SPs, except within any other TWT SP that is setup with the AP or advertised by the AP.
* If the NDP Paging Indicator/Unavailability Mode subfield is set to 1, the AP may be unavailable outside of these broadcast TWT SPs, even if that time falls within any other TWT SP that is setup with the AP or advertised by the AP.

NOTE – An AP that is unavailable is not capable of receiving PPDUs, following the definition in 11.2.1 (General).

**26.8.2 Individual TWT agreements**

TGm editor: please add the following NOTE after the first paragraph:

(#4010) NOTE - Whether the Responder PM Mode subfield is set to 0 or 1, the AP unavailability both inside and outside of the TWT SP is affected by any advertised broadcast TWT element with Broadcast TWT ID field equal to 0 and with Responder PM Mode field equal to 1 (see 26.8.3.2).