### IEEE P802.11Wireless LANs

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| 11ba D4.0 MAC Comment Resolution for WUR Power Management  |
| Date: 2019-10-28 |
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Abstract

This submission proposes resolutions for comments of TGba Draft D4.0 with the following CIDs:

4016, 4029, 4041

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revision baed on the offline discussion.

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 TGba D4.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGba D4.0 Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGba Editor: Editing instructions preceded by “TGba Editor” are instructions to the TGba editor to modify existing material in the TGba draft. As a result of adopting the changes, the TGba editor will execute the instructions rather than copy them to the TGba Draft.***

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| **CID** | **Commenter** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 4016 | Albert Petrick | 118.13 | 29.8.4 | Clause 29.8.4 describes power management operation for a WUR non-AP STA. Two power states WUR awake and WUR doze are defined based on the references in clause 11.2.1 (REVmd D2.4). Power Save (PS) mode is referenced to clause 11.2.3.2 (non-AP STA power management modes)- REVmd D2.4. The use of state transition diagrams is useful to understand the transition flow in and out of the doze and wake states and should be used to remove any ambiguities in the text. Figures 11-12 and 11-13 in REVmd 2.4 are good examples of transition state diagrams that could be modified to illustrate transitioning for transitioning between WUR awake and doze states. | Use Figures 11-12 and 11-12 from REVmd 2.4 as examples, add transition state diagram that is WUR specific for awake and doze states. | Rejected – We note that Figures 11-12 in D2.4 is created for DMG STA rather than non-DMG STA. We also note that there is no transition diagram of awake/doze state in the baseline, and the comment should be submitted to revmd to have a state diagram for the baseline first so that WUR operation can be referenced to draw the diagram. |
| 4029 | Hanseul Hong | 118.1 | 29.8.3 | What is the 'keep alive operation mode'? | Define 'keep alive operation mode' and 'keep alive operation', or specify the operation | Revised –Agree in principle with the commenter. We note that keep-alive operation is described below.*“A WUR non-AP STA may set the Requested Keep Alive Frame field to 1 in the WUR Mode element torequest the WUR AP to generate a keep-alive WUR frame during the on durations that are negotiated withthe WUR non-AP STA.”*We simply revise the mode to say “to enable generation of keep-alive WUR frame”.We also add a instruction to change “keep-alive” frame to “keep alive WUR” frame to avoid inconsistency.TGba editor to make the changes shown in 11-19/1795r1 under all headings that include CID 4029. |
| 4041 | Jon Rosdahl | 117.50 | 29.8.3 | "the WUR AP expects that the WUR non-AP STA is in the awake state (see 11.2.1 (General)) at the earliest service period," -- the WUR A"P cannot "expect things | Reword cited phrase to remove "expects". Just delete "the WUR AP expects that"" the WUR non- AP STA is in the awake state (see 11.2.1 (General)) at the earliest service period," | Rejected – We note that we use “expect” by following the wording used in revmd D3.0. Simple search indicates that the word “expect” has been used more than 300 times in revmd D3.0. Please see the example below.“**active mode**: A power management mode in which a nonmesh station (STA) remains in the awake state,and a mesh power management mode with respect to a neighbor peer mesh STA in which a mesh stationremains in the awake state and is expected to receive frames from this neighbor peer mesh STA.”“**(#1268)awake beacon interval (A-BI):** In a directional multi-gigabit (DMG) basic service set (BSS) orpersonal basic service set (PBSS)(MDR2), a beacon interval of a power save mode wakeup schedule during which a station (STA) is expected to be in the awake state during several portions of the beacon interval”**“(#1268)doze beacon interval (D-BI):** In a directional multi-gigabit (DMG) basic service set (BSS) orpersonal basic service set (PBSS)(MDR2), a beacon interval of a power save mode wakeup schedule during which a station (STA) is expected to be in(Ed) the doze state for most of the portions of the beacon interval.”“The Nominal Minimum TWT Wake Duration field indicates the minimum amount of time, in units of256 s, that the TWT requesting STA expects that it needs to be awake in order to complete the frameexchanges associated with the TWT flow identifier for the period of TWT wake interval, where TWT wakeinterval is the average time that the TWT requesting STA expects to elapse between successive TWT SPs.”“**successful transmission:** A transmission and the reception of its expected acknowledgment or atransmission for which no acknowledgment is expected.”We also note that the description is from the perspective from WUR AP to consider the case when WUR non-AP STA does not receive the wake-up frame. The description for WUR non-AP STA is described in 29.8.4.  |

**Discussion:** *None.*

***TGba editor: Change 29.8.3 WUR power management operation for a WUR AP as follows (track change on):***

**29.8.3 WUR power management operation for a WUR AP**

(…existing texts …)

NOTE 2—A WUR AP can generate keep alive frames, which are WUR beacon frames, in the WUR primary channel,
and a WUR AP cannot generate keep alive frames, which are WUR beacon frames, in a WUR channel that is not the
WUR primary channel. Hence, the AP can assign these WUR non-AP STAs in the WUR primary channel to enable generation of the keep alive WUR frames(#4029), and the AP cannot assign these WUR non-AP STAs in a WUR channel that is not the WUR primary channel to enable the keep alive operation.

***TGba editor: Change “keep alive frame” or “keep-alive frame” to “keep alive WUR frame” or “keep-alive WUR frame” across the spec (#4029)***