IEEE P802.11
Wireless LANs

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| Awake window access fixes in DMG network  |
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Abstract

Link access during awake window that is scheduled as part of CBAP interval is not properly defined in current text. Proposed fixes resolve the issue

Discussion:

An awake window plays a central role in power management of DMG network. The awake window is used to allow devices that are in low power mode to connect each other and synchronize awake periods. The awake window is dedicated for transmissions of very short ATIM frames used for power management (PM) purposes. The awake window is scheduled as part of CBAP interval. The CBAP interval may be a CBAP only BI allocation or may be allocated in a scheduled BI. Beeing part of wider CBAP interval makes link access of the awake window very special and it is not covered by any other link access rules defined in DMG networks. In the current text, however awake window link access rules are presented only in general, for example: “ATIM frames shall be transmitted only during the … awake window”, “NOTE—Transmission rules during the awake window are the same as the transmission rules for the CBAP that the awake window belongs to.(#6816)”, “During the awake window(#3261), a STA shall transmit only ATIM frames.” Lack of specified backoff rules may result in capturing effect that multiple STA will release non-ATIM frames at end of awake window causing excessive collisions.

Here is a fix that resolves the issue.

**10.3.4.3 Backoff procedure for DCF**

*P1316L45*

*Add new text after last paragraph that starts with “In an IBSS the backoff timer …”*

At the start of an awake window, a DMG STA shall suspend decrementing its backoff timer(s) for any transmission of non-ATIM frames for the duration of the awake window as indicated in the most recently received Awake Window element for each BSS the STA discovers. At the end of the awake window, the DMG STA shall resume the backoff timer(s) for non-ATIM frames.

**References:**

1. IEEE P802.11-REVmc/D5.3, April 2016