### IEEE P802.11 Wireless LANs

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| LB 203 Comment Resolution for Synchronization (Sync) frame operation | | | | |
| Date: 2014-08-29 | | | | |
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Abstract

This submission proposes resolutions for comments in clause 9.44.1 and 8.6.24.4 of TGah Draft 2.0 with the following CIDs:

* 3370, 3818, 3819, 3951, 3742

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revise the changes for CID 3370.

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 TGah Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 3370 | 284.42 | 9.44.1 | The protection of the TXOP duration is missing in this sentence. Add " ,or a TXOP duration " after TWT time". | As in comment. | Revised –  Agree in principle with the commenter.  It is described in 9.44.1 that a STA may also request to an AP protection for a TXOP duration after the expiration of a wakeup timer.  Hence, TXOP protection should be described in the sentence.  TGah editor to make the changes shown in 14/1087r1 under all headings that contain CID 3370. |
| 3818 | 284.33 | 9.44.1 | Time slot protection behavior should not be defined here. | Remove the paragraph or just keep the first sentence of the paragraph. | Rejected –  Slot protection is a feature that can be requested by sync control frame, which is used to request or stop the sync frame transmission. Hence, the protection feature should be described in 9.44.1, and the first sentence should be kept.  The second sentence describes that the TXOP duration after the expiration of a wakeup timer may also be requested by STA for protection.  The third sentence describes when the protection will not be requested by sync control frame.  The fourth sentence describes the required operation for an AP when it receives the request from the STAs.  Hence, all sentences have their purposes and should not be removed or moved to other clauses. |
| 3819 | 285.1 | 9.44.1 | "When a STA receives an NDP CTS frame with the RA/Partial BSSID field equal to the S1G partial AID of the STA from the UL-Sync capable AP with which the STA is associated, the STA shall transmit a data frame to the AP a SIFS after the reception of the NDP CTS frame if the STA has a data frame to transmit to the AP and has requested the AP for a sync frame transmission."  Why PS-Poll is not included here? | To me sync is used for uplink data transmission when a STA has frame for the AP and for downlink data transmission when the AP has buffered frame for the STA.  The following text should also be added: when the AP has buffered frame for the STA, a data frame may be used as the synchronization frame. | Rejected –  As described in 9.44.1, the sync frame transmission is for uplink traffic and the main purpose is to minimize the time for medium synchronization for a STA that is changing from Doze to Awake in order to transmit.  To address the comment, the PS-Poll frame is transmitted by a non-AP STA whereas the sync frame is transmitted by an AP. Hence, PS-Poll can not be transmitted by AP as a sync frame.  Further, the following sentence P284/L46 “For a STA that requested for a sync frame transmission, the UL-Sync capable AP shall schedule a sync frame,” already allows a Data frame to be used as a sync frame. |
| 3951 | 284.3 | 9.44.1 | The subclause 9.44.1 (Sync frame transmission procedure for uplink traffic) specifies both a procedure to transmit Sync frame in RAW or TWT, and a procedure to enable / disable Sync frame transmission. The latter shall be specified in the clause 10 (MLME). | Insert a new subclause 10.51 (Synchronization (Sync) frame operation), and move following paragraphs of 9.44.1 as the contents of 10.51. - 5th paragraph (P284L23) - 6th paragraph (P284L29) - 7th paragraph (P284L33) | Rejected –  MAC sublayer management entity (MLME) stands as the interface between MAC sublayer and Station Management Entity (SME). If functionality needs to be accessed through SME, then corresponding descriptions must be provided in MLME.  Indeed, sync control frame transmission is a functionality that needs to be accessed through SME. However, 6.3.104 has provided an interface in MLME to support the signaling of a synch control procedure. Hence, no further descriptions shall be added in clause 10.  Further, 5th, 6th, and 7th paragarphs describe the operations of transmitting and receving the sync control frame. Hence, they are put in the right clause and do not need to be moved to other clauses. |
| 3742 | 179.45 | 8.6.24.4 | Sync Control can't indicate sync frame transmission for downlink traffic. | Clarify it. | Revised –  Agree in principle with the commenter.  As described in 9.44.1, synchronization (sync) frame transmission procedure is for uplink traffic and the main purpose is to minimize the time for medium synchronization for a STA that is changing from Doze to Awake in order to transmit. Hence, we do not need to indicate if it is for downlink traffic.  Revise the description in 8.6.24.4 correspondingly.  TGah editor to make the changes shown in 14/1087r1 under all headings that contain CID 3742. |

**Discussion:** *None.*

**Propose:**

* Revised for CID 3370 and 3742, per discussion and editing instructions in 11-14/1087r1.

***TGah editor: Change this subclause (9.44.1) as follows:*** *(CID 3370)*

When an AP receives a Sync Control frame from a STA with the Time Slot Protection Request field equal to 1, the AP shall protect a time slot that is assigned for the STA in a RAW or a TWT time, or a TXOP duration after the expiration of a wakeup timer of the STA with NAV-setting frame exchanges.

***TGah editor: Change this subclause (8.6.24.4) as follows:*** *(CID 3742)*

The Sync Control frame is an Action frame of category S1G. It is transmitted by a non-AP STA to a UL-Sync capable AP to enable or disable the sync frame transmission for uplink traffic ~~or downlink traffic~~. (see 9.44.1 (Sync frame transmission procedure for uplink traffic))