IEEE P802.11
Wireless LANs

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| Resolution for CIDs related to UORA – Part 2 |
| Date: July 5, 2019 |
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 Abstract

This submission proposes resolutions for comments received for TGax LB238 (3):

21169, 20192, 21603

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

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

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

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| **CID** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 21169 | 344.04 | 26.5.5.2 | When there is a low contention level for RA-RUs, mandating the AP to allocate separate RA-RUs for each BSSID is unacceptably inefficient. There needs to be a method to allocate one RU to be available for random access. | Indicate scheme to allow AP to allocate RA-RUs to all BSSIDs. Accordingly, revise pg326 ln25 and pg 332 ln 34. | **Reject**I assume the commenter is referring to a multiple BSSID scenario. The proposed scheme would add necessary burden to implementation without much gain. 1. A non-AP would need to have two modes of operation – one for the regular UORA operation (as described in the current spec) which is applicable to single BSS case or the case when the STA monitors TF from its associated BSS in the multiple BSSID set and a special mode when the STA needs to monitor TFs from TxBSSID.
2. The scheme would also require defining new signaling mechanism to inform non-AP STAs when they should switch their mode of UORA operation (i.e., at what point should it start monitoring RA-RU from TF sent by TxBSSID)?
3. Further, the scheme would require updating the UORA parameter set values when the UORA operating mode is switched. The updated UORA parameter set would need to account for the increased number of contenders when operating in multi-BSS UORA mode while maintaining fairness to STAs associated with TxBSSID. This would be a difficult balance.
4. In addition, the current spec, allows an APs operating in multiple BSSID set to send a single DL MU PPDU addressed to different BSSIDs in the set carrying TFs with RA-RUs for STAs associated with their respective BSSIDs (please see note on P344L56 of D4.1.

Given these considerations, there is no need to define a new multi-BSS UORA procedure. |
| 20192 | 347.03 | 26.5.5.5 | "An AP transmitting a Trigger frame that allocates one or more RA-RUs for unassociated STAs shall transmitthe Trigger frame in an HE PPDU so that an unassociated non-AP STA can determine the AP's BSScolor." imposes the trigger frame to be tx'd in HE PPDU un-necessarily. The non-AP STA can determine the BSS color from the AP's beacons. | Remove this paragraph. | **Reject**An unassociated scanning STA may not have any information on the AP’s BSS configuration (e.g., BSS Color etc) when it receives a Trigger frame with RA-RUs for unassociated STAs. In such cases, the STA will not be able to construct a TB PPDU with the correct color information. TGax had discussed this topic at great length (early 2018 timeframe) – there were two options on the table – #1, a TF carrying RA-RUs for unassociated STAs should carry enough information (e.g., overload the Trigger Dependent User Info field to carry primary channel information) or #2, have the STA wait until it receives a Beacon frame from this AP. Both options had their pros and cons. Specifically with #2, a STA would loose an opportunity to send a mgmt. frame to the AP. TGax members debated the topic over a couple of IEEE meetings and decided to add a requirement that a TF carrying RA-RU for unassociated STA should be transmitted in HE PPDU so that the STAs can determine the BSS color of the AP. |
| 21603 | 347.03 | 26.5.5.5 | "An AP transmitting a Trigger frame that allocates one or more RA-RUs for unassociated STAs shall transmitthe Trigger frame in an HE PPDU so that an unassociated non-AP STA can determine the AP's BSScolor." imposes the trigger frame to be tx'd in HE PPDU un-necessarily. The non-AP STA can determine the BSS color from the AP's beacons. | Remove this paragraph. | **Reject**An unassociated scanning STA may not have any information on the AP’s BSS configuration (e.g., BSS Color etc) when it receives a Trigger frame with RA-RUs for unassociated STAs. In such cases, the STA will not be able to construct a TB PPDU with the correct color information. TGax had discussed this topic at great length (early 2018 timeframe) – there were two options on the table – #1, a TF carrying RA-RUs for unassociated STAs should carry enough information (e.g., overload the Trigger Dependent User Info field to carry primary channel information) or #2, have the STA wait until it receives a Beacon frame from this AP. Both options had their pros and cons. Specifically with #2, a STA would loose an opportunity to send a mgmt. frame to the AP. TGax members debated the topic over a couple of IEEE meetings and decided to add a requirement that a TF carrying RA-RU for unassociated STA should be transmitted in HE PPDU so that the STAs can determine the BSS color of the AP. |