IEEE P802.11
Wireless LANs

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| LB225 CR Sub-clause 8.3.5 |
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Abstract

This submission proposes resolutions of comments received from TGax LB225.

(The proposed change is based on TGax Draft 1.0.)

* CIDs: 6935, 3102, 7707, 8494, 4715, 6936, 4716, 6937, 5432, 4717 (10 CID)
* NOTE: R2 just fixed a minor editorial errors in RESOLUTION descriptions.

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.***

| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- |
| 6935 | 15.21 | 8.3.5.2.2 | Why does the STA\_INDEX need to be added? Since the STA\_INDEX and the USER\_INDEX seem to be basically provide the same function and both operate using the u value to provide an index for MU users. It would seem to be simpler to extend the USER\_INDEX to provide the necessary function and behavior of the STA\_INDEX for HE MU PPDUs. Also note that since the User\_INDEX parameter is only present for a VHT MU PPDU, it would seem that a VHT STA would be very confused by presence of a STA\_INDEX as it would occupy the same location in the PHY-DAT.request as the USER\_INDEX would. | remove STA\_INDEX and repurpose the USER\_INDEX to provide the index function for HE MU PPDUs.Also rewrite the descriptive paragraphs for USER\_INDEX and STA\_INDEX so that it is clear what the behavior is of the USER\_INDEX when used in a VHT MU PPDU and a HE MU PPDU. | Revised- The difference between STA\_INDEX and USER\_INDEX is not clearly described in current draft text. For a VHT MU PPDU, the u value (i.e., USER\_INDEX) provides an index for MU users. The u value is typically a sequential interger value. (e.g., 0, 1, 2 and 3).For an HE MU PPDU, an element of the STA\_ID\_LIST parameter (i.e., STA\_INDEX) provides an index of MU users. For example, if an RU is intended for a single STA, then the STA\_INDEX corresponds to the AID of the STA receiving the DATA contained in that RU.I agree that both have conceptually same purpose. But, the detailed parameter value is very different and also the use cases of the STA\_INDEX are broad than the USER\_INDEX.TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 3102 | 15.22 | 8.3.5.2.2 | Why do we need both USER\_INDEX and STA\_INDEX? They both seem to describe exactly the same concept.As these both support "multi-user" (not "multi-STA") operation, the existing term is preferable. | Throughout the draft, replace all references to STA\_INDEX with USER\_INDEX. | Revised- The difference between STA\_INDEX and USER\_INDEX is not clearly described in current draft text. For a VHT MU PPDU, the u value (i.e., USER\_INDEX) provides an index for MU users. The u value is typically a sequential interger value. (e.g., 0, 1, 2 and 3).For an HE MU PPDU, an element of the STA\_ID\_LIST parameter (i.e., STA\_INDEX) provides an index of MU users. For example, if an RU is intended for a single STA, then the STA\_INDEX corresponds to the AID of the STA receiving the DATA contained in that RU.I agree that both have conceptually same purpose. But, the detailed parameter value is very different and also the use cases of the STA\_INDEX are broad than the USER\_INDEX.TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 7707 | 15.34 | 8.3.5.2.2 | How is STA\_INDEX different from USER\_INDEX? | Remove the new parameter. Merge the reference to Table 28-1 into the existing text for USER\_INDEX on condition of an HE MU PPDU. | Revised- The difference between STA\_INDEX and USER\_INDEX is not clearly described in current draft text. For a VHT MU PPDU, the u value (i.e., USER\_INDEX) provides an index for MU users. The u value is typically a sequential interger value. (e.g., 0, 1, 2 and 3).For an HE MU PPDU, an element of the STA\_ID\_LIST parameter (i.e., STA\_INDEX) provides an index of MU users. For example, if an RU is intended for a single STA, then the STA\_INDEX corresponds to the AID of the STA receiving the DATA contained in that RU.I agree that both have conceptually same purpose. But, the detailed parameter value is very different and also the use cases of the STA\_INDEX are broad than the USER\_INDEX.TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 8494 | 15.34 | 8.3.5.2.2 | There is no need for a new STA\_INDEX parameter. USER\_INDEX and STA\_INDEX are semantically equivalent. Let's choose one and stick with it. | Remove STA\_INDEX. Update the text for USER\_INDEX to include HE MU PPDU. Use same name for PHY-DATA.indication. | Revised- The difference between STA\_INDEX and USER\_INDEX is not clearly described in current draft text. For a VHT MU PPDU, the u value (i.e., USER\_INDEX) provides an index for MU users. The u value is typically a sequential interger value. (e.g., 0, 1, 2 and 3).For an HE MU PPDU, an element of the STA\_ID\_LIST parameter (i.e., STA\_INDEX) provides an index of MU users. For example, if an RU is intended for a single STA, then the STA\_INDEX corresponds to the AID of the STA receiving the DATA contained in that RU.I agree that both have conceptually same purpose. But, the detailed parameter value is very different and also the use cases of the STA\_INDEX are broad than the USER\_INDEX.TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 4715 | 15.35 | 8.3.5.2.2 | There are two cases HE DL MU PPDU and HE UL MU PPDU. This statement applies to the DL MU PPDU, while for the UL MU PPDU it is the transmitter identifier. Also it is not really an index of the user (well actually yes) but for consistency specify it as the AID of the user (and add a reference to 27.11.1 (STA\_ID\_LIST). Similar observation for the next subclause 8.3.5.3.2. | As in comment. | Revised- Agree in principle.The current description of STA\_INDEX makes a confusion. Change the description of STA\_INDEX. TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 6936 | 15.48 | 8.3.5.3.2 | Why does the STA\_INDEX need to be added? Since the STA\_INDEX and the USER\_INDEX seem to be basically provide the same function and both operate using the u value to provide an index for MU users. It would seem to be simpler to extend the USER\_INDEX to provide the necessary function for HE trigger-based PPDUs. | Replace STA\_INDEX with USER\_INDEX. | Revised- The difference between STA\_INDEX and USER\_INDEX is not clearly described in current draft text. For a VHT MU PPDU, the USER\_INDEX provides an index for MU users. For an HE trigger-based PPDU, the STA\_INDEX provides an index of an HE trigger-based PPDU. Typically it is identified as an AID of the transmitter of an HE trigger-based PPDU. TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 4716 | 15.56 | 8.3.5.3.2 | "request" should be "indication". Also need to keep consistency on how we call this PPDU. Maybe define an acronym HE Trigger Based PPDU (HE TB PPDU) and stick with it throughout the draft. | As in comment. | Revised- Agree in principleAgree in principle. Change “request” to “indication”. HE trigger-based PPDU has been consistenly used throughput the draft. No change on the naming is needed.TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 6937 | 15.56 | 8.3.5.3.2 | Reuse the USER\_INDEX to provide the function of the STA\_INDEX | Replace the sentence with: The USER\_INDEX parameter is present for an HE trigger-based PPDU and indicates the index of the user inthe RXVECTOR to which the accompanying DATA octet applies; otherwise, this parameter is not present. | Revised- The difference between STA\_INDEX and USER\_INDEX is not clearly described in current draft text. For a VHT MU PPDU, the USER\_INDEX provides an index for MU users. For an HE trigger-based PPDU, the STA\_INDEX provides an index of an HE trigger-based PPDU. Typically it is identified as an AID of the transmitter of an HE trigger-based PPDU. TGax editor makes changes as shown in the as specified in 11-17/0223r2. |
| 5432 | 15.65 | 8.3.5.10.3 | What has IPI got to do with it? The only parameter present in this primitive is IPI STATE. This has nothing to do with OBSS\_PD. | Delete this instruction completely. | Rejected- I agree that The IPI-STATE parameter is not related with the OBSS\_PD. But, the purpose of the PHY-CCARESET.request usage on the spartial resuse (e.g., OBSS\_PD) is as the following. “The effect of receipt of this primitive by the PHY entity is to reset the PHY to the state appropriate for the end of a received frame and to initiate a new CCA evaluation cycle.” |
| 4717 | 16.01 | 8.3.5.10.3 | This additional generation is applicable to HE STAs. Also refer to the general spatial reuse subclause rather than to the OBSS-PD pased subclause only. | Replace paragraph with: "This primitive can additionally be generated by the MAC sublayer for the local HE PHY entity when the spatial reuse conditions defined in 27.9 (Spatial Reuse) are met. | Revised- Agree in principle. Geralized the generating condition of the PHY-CCARESET.request primivie. TGax editor makes changes as shown in the as specified in 11-17/0223r2. |

***TGax editor: modify the sub-clause 8.3.5 as the following:***

* PHY service specification
* Detailed PHY service specifications
* PHY SAP detailed service specification
* PHY-DATA.request
* Semantics of the service primitive

Change the subclause as follows:

The primitive provides the following parameter:

PHY-DATA.request(

DATA
USER\_INDEX
STA\_INDEX
)

The DATA parameter is an octet of value X'00' to X'FF'.

The USER\_INDEX parameter (typically identified as u for a VHT STA; see NOTE 1 at the end of Table 21-1 (TXVECTOR and RXVECTOR parameters)) is present for a VHT MU PPDU and indicates the index of the user in the TXVECTOR to which the accompanying DATA octet applies; otherwise, this parameter is not present.

~~The STA\_INDEX parameter (obtained from STA\_ID\_LIST in Table 28-1 (TXVECTOR and RXVECTOR parameters) is present for an HE MU PPDU and indicates the index of the user in the TXVECTOR to which the accompanying DATA octet applies; otherwise, this parameter is not present.~~

The STA\_INDEX parameter (identified as an element of the STA\_ID\_LIST parameter; see STA\_ID\_LIST parameter in Table 28-1 (TXVECTOR and RXVECTOR parameters) and 27.11.1 (STA\_ID\_LIST)) is present for an HE MU PPDU and indicates the STA or group of STAs that is the recipient of an RU to which the accompanying DATA octet applies; otherwise, this parameter is not present.

* PHY-DATA.indication
* Semantics of the service primitive

Change the subclause as follows:

The primitive provides the following parameter:

PHY-DATA.~~request~~indication(

DATA
STA\_INDEX

)

The DATA parameter is an octet of value X'00' to X'FF'.

~~The STA\_INDEX parameter is present for an HE trigger-based PPDU and indicates the index of the user in the RXVECTOR to which the accompanying DATA octet applies; otherwise, this parameter is not present.~~

The STA\_INDEX parameter (identified as an AID of the transmitter of the DATA contained in an HE trigger-based PPDU; see STA\_ID\_LIST parameter in Table 28-1 (TXVECTOR and RXVECTOR parameters)) is present for an HE trigger-based PPDU and indicates the STA of an RU from which the accompanying DATA octet applies; otherwise, this parameter is not present.

* PHY-CCARESET.request
* When generated

Insert the following after the 1st paragraph:

This primitive is also generated by the MAC sublayer for the local PHY entity when ~~the conditions are met to perform OBSS\_PD-based spatial reuse operation as defined in 27.9.2 (OBSS\_PD-based spatial reuse operation)~~ the spatial reuse conditions defined in 27.9 (Spatial Reuse) are met.