IEEE P802.11  
Wireless LANs

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| 11be D3.0 CR for 35.3.19 | | | | |
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Abstract

This submission proposes resolutions for the following CIDs:

16957, 15227, 15727, 16107, 17359, 18171, 18243

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 TGbe D3.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe D3.0 Draft. (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

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

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| **CID** | **Commenter** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 16957 | Mark RISON | 35.3.19.1 | 573.14 | " Each AP affiliated with an NSTR mobile AP MLD may" -- this is not a restriction | De-bullet-ify | Revised  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 16957 |
| 15227 | Akira Kishida | 35.3.19.1 | 573.27 | It should be clarified that the primary link is common to each non-AP MLD. If different primary links are established to each non-AP MLD, the AP MLD will have multiple primary links. | As in the comment. | Revised  Clarify that the primary link is for the AP MLD.  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 15227 |
| 15727 | KENGO NAGATA | 35.3.5.1 | 573.27 | "An NSTR mobile AP MLD shall designate one link of an NSTR link pair as the primary link. The other link of the NSTR link pair is the nonprimary link. When the NSTR mobile AP MLD intends to change the channel/operating class for the primary link, it shall perform channel switch procedure. The NSTR mobile AP MLD shall schedule for transmissions of Beacon and Probe Response frames and group addressed Data frames only on the primary link."  The primary link and the nonprimary link are unique concepts for an NSTR mobile AP MLD, compared to general muti-link features. Therefore, it shoud be clarified whether the primary link and the non-primary link are commonly used for all non-AP MLD, or they might be negotiable between an NSTR mobile AP MLD and each non-AP MLD. | If the primary link and the nonprimary link are commonly used for any non-AP STAs, please add the following language, "The primary link and the non-primary link shall be common for all the non-AP MLDs associating to the NSTR mobile AP MLD." | Revised  Clarify that the primary link is for the AP MLD.  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 15727. |
| 16107 | Insun Jang | 35.3.19.1 | 574.29 | Need to change "MLD Capabilities" to MLD Capabilities and Operations" | As in the comment | Accepted  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 16107. |
| 17359 | Alfred Asterjadhi | 35.3.19.1 | 586.11 | "Regarding "The NSTR mobile AP MLD shall operate with one or two affiliated APs including the AP operating on the primary link". Better to clarify when the NSTR mobile AP MLD is operating in one link. See suggested text | Replace" The NSTR mobile AP MLD shall operate with two affiliated APs, with one AP operating on the primary link, and the other AP operating on the nonprimary link, where the nonprimary link may be disabled". | Revised  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 17359. |
| 18171 | Abhishek Patil | 35.3.19.1 | 574.29 | The first sentence implies that the NSTR Mobile AP MLD cannot indicate value 3. While the 2nd sentence implies that the MLD cannot indicate value greater than 1. Therefore, the two sentences can be replaced with a single simple sentence as: "An NSTR mobile AP MLD shall set the value of TID-To-Link Mapping Negotiation Supported subfield of MLD Capabilities field of Basic Multi-Link element to at most 1." | As in comment. | Revised  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 18171. |
| 18243 | Li-Hsiang Sun | 35.3.19.1 | 513.39 | in 35.3.7.1.1 that TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities field of the Basic Multi-Link element shall not be to set to 3 and value 2 is reserved  However, there are multiple places in the draft indicates otherwise, such as in p541L23  Need to resolve the inconsistency, either delete this sentence or delete other places indicating not all TIDs are mapped to all enabled links | As in comment | Revised  TGbe editor to make the changes shown in 11-23/0395r0 under all headings that include CID 18171. |

*TGbe editor: Change Clause 35.3.19.1 as follows (track change on):*

**35.3.19 NSTR mobile AP MLD operation**

**35.3.19.1 General**

An AP MLD that is an NSTR mobile AP MLD shall set dot11EHTNSTRMobileAPMLDImplemented to true, otherwise it shall set dot11EHTNSTRMobileAPMLDImplemented to false. An NSTR mobile AP MLD shall have at most two links. (#16957)

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(#16957)If an NSTR mobile AP MLD has two links, the links shall be part of an NSTR link pair. If an NSTR mobile AP MLD operates with two affiliated APs, one AP shall be operating on the primary link of the NSTR link pair, and the other AP shall be operating on the nonprimary link of the NSTR link pair, where the primary link shall not be disabled and the nonprimary link may be disabled (#17359).

(#16957)Each AP affiliated with an NSTR mobile AP MLD may optionally support the following features in addition to the optional features supported by an AP affiliated with an AP MLD which is not an NSTR mobile AP MLD:

•Support of DL and UL OFDMA operation

•Support of two or more spatial streams

•Support for 160 MHz operating channel width in the 6 GHz band

•Support for MRU for DL/UL OFDMA if DL/UL OFDMA operation is supported

(#16957)The NSTR mobile AP MLD is in a mobile device that is typically battery powered.

NOTE 1—An NSTR mobile AP MLD follows the same rules defined in 35.3.2 (Multi-link device addressing).

An NSTR mobile AP MLD shall designate one link of an NSTR link pair as the primary link for the AP MLD (#15227, 15727). The other link of the NSTR link pair is the nonprimary link. When the NSTR mobile AP MLD intends to change the channel/operating class for the primary link, it shall perform channel switch procedure. The NSTR mobile AP MLD shall schedule for transmissions of Beacon and Probe Response frames and group addressed Data frames only on the primary link.

NOTE 2—An NSTR mobile AP MLD that intends to switch its primary and nonprimary links performs a simultaneous channel switch on the primary link and nonprimary link following procedures defined in 11.8.8 (Selecting and advertising a new channel), 11.8.9 (Channel Switch Announcement element operation), 11.9 (Extended channel switching (ECS)), and 35.3.19.3 (NSTR mobile AP MLD multi-link procedures for channel switching, extended channel switching, and channel quieting).

TSF timers of all APs affiliated with an NSTR mobile AP MLD shall be the same.

NOTE 3—Since TSF timers of all APs affiliated with an NSTR mobile AP MLD are the same, a non-AP MLD that is associated with an NSTR mobile AP MLD only needs to maintain one TSF timer for all the links.

A non-AP MLD shall perform frame exchanges during the authentication, (re)association, and 4-way handshake procedures only on the primary link of the NSTR mobile AP MLD.

NOTE 4—No frame exchange is allowed to be initiated through EDCA channel access on the nonprimary link alone

Non-AP STAs affiliated with a non-AP MLD that is associated with an NSTR mobile AP MLD and APs affiliated with an NSTR mobile AP MLD shall follow the procedure defined in 35.3.16.6 (Start time sync PPDUs medium access) when intending to transmit in the nonprimary link with the following additional constraints:

—A non-AP STA affiliated with the non-AP MLD may initiate a PPDU transmission to its associated AP affiliated with the NSTR mobile AP MLD in the nonprimary link only if the other non-AP STA affiliated with the same non-AP MLD in the primary link is also initiating the PPDU as a TXOP holder to its associated AP with the same start time.

—An AP affiliated with the NSTR mobile AP MLD may initiate a PPDU transmission to its associated non-AP STA in the nonprimary link only if the other AP affiliated with the same NSTR mobile AP MLD in the primary link is also initiating the PPDU as a TXOP holder with the same start time.

APs affiliated with an NSTR mobile AP MLD that are simultaneously transmitting PPDUs to the associated non-AP STAs shall align the end time of PPDUs following the same rules that are defined for an AP MLD in 35.3.16.5 (PPDU end time alignment on a NSTR link pair).

Non-AP STAs affiliated with a non-AP MLD that are simultaneously transmitting PPDUs to the associated APs affiliated with an NSTR mobile AP MLD shall align the end time of PPDUs following the same rules that are defined for an AP MLD in 35.3.16.5 (PPDU end time alignment on a NSTR link pair).

NOTE 5—The end time alignment of PPDUs carrying the response frames follow the same rules as those for the soliciting PPDUs.

An NSTR mobile AP MLD shall set the SRS Support subfield in the Common Info field of the Basic Multi-Link element it transmits to 1 to indicate support for the reception of a frame that carries an SRS Control subfield if its dot11SRSOptionImplemented is true; otherwise, the MLD shall set it to 0.

If non-AP STAs affiliated with a non-AP MLD or its associated NSTR mobile AP MLD simultaneously transmit PPDUs to a STA affiliated with an MLD that has dot11SRSOptionImplemented equal to true, and the transmitted PPDUs solicit control response frames and the MLD intends to align the end times of the PPDUs sent in response by the peer STAs, then at least one of the PPDUs soliciting a control response frame shall carry an MPDU with SRS Control subfield following the procedure defined in 35.3.16.5.2 (End time alignment of response PPDUs using SRS Control field).

(#17359)An NSTR mobile AP MLD shall set the TID-To-Link Mapping Negotiation Support subfield of MLD Capabilities and Operations (#16107)field of the Basic Multi-Link element to at most 1. All TIDs shall be at least mapped to the primary link(#18171).