IEEE P802.11
Wireless LANs

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| Proposed Draft Text for MLO Multi-Link Channel Access: Capability Signaling |
| Date: 2020-08-26 |
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Abstract

This submission proposes draft text for MLO Multi-Link Channel Access: Capability Signaling based on the following portions of the SFD:

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: add Motion 38, Motion 122 (#SP167) and Motion 26
* Rev 2: add Motion 112 (#SP4), and editorial changes
* Rev 3: editorial changes
* Rev 4: motion tags are added. Add referenced sub-clause for each operating modes.
* Rev 5: editorial changes
* Rev 6:
	+ Add the capability bit set to 1/0 to distinguish multi-radio/single radio MLD;
	+ Modify the text for STR/NSTR to align with matt’s prenstation (11-20-1395r12)
	+ Delete the dynamic capability update, because it already covered by detail of capability signalling are TBD, and change some text.

A MLD can indicate capability to support exchanging frames simultaneously on a set of affiliated STAs to another MLD.

[Motion 26, [5] and [103]]

A MLD that supports multiple links can announce whether it can support transmission on one link concurrent with reception on the other link for each pair of links.

NOTE 1 – The 2 links are on different channels.

NOTE 2 – Whether to define a capability of announcing the support transmission on one link concurrent with transmission on the other link is TBD.

[Motion 38, [5] and [102]]

802.11be shall allow a MLD that has constraints to simultaneously transmit and receive on a pair of links to operate over this pair of links.

* Signaling of these constraints is TBD.

 [Motion 46, [5] and [147]]

If a MLD can support transmission on link 1 concurrent with reception on link2, but cannot support transmit on link2 concurrent with reception on link1, this pair of links will be non-STR.

[Motion 122, #SP167, [8] and [119]]

802.11be supports that a non-AP MLD may update its ability to perform simultaneous transmission and reception on a pair of setup links after multi-link setup.

* This update for any pair of setup links can be announced by non-AP MLD on any enabled link.

NOTE – Specific signaling for update indication is TBD.

NOTE – Limitations on dynamic updating is TBD.

[Motion 112, #SP4, [13] and [101]]

***Editing instructions formatted like this are intended to be copied into the TGbe 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.***

***Insert new Clause 33 following Clause 32 as follows:***

33. Extremely High Throughput (EHT) MAC specification

33.x Multi-link channel access

33.x.y1 Capability signaling

An MLD can indicate capability to support exchanging frames simultaneously by affiliated STAs on a set of links to another MLD in TBD capability element. If that capability field is set to 1, the MLD is a multi-radio MLD. If that capability field is set to 0, the MLD is a single radio MLD. (Motion 26) A multi-radio MLD operating on multiple links can announce whether it can support transmission on one link concurrent with reception on the other link for each pair of links through TBD subfield in TBD element. The two links of each link pair are on different channels. (Motion 38, Motion 46) The TBD subfield is set to 1 to indicate the link pair is STR. The TBD subfield is set to 0 to indicate the link pair is NSTR.

Note - If an MLD can support transmission on link 1 concurrent with reception on link2, but cannot support transmission on link2 concurrent with reception on link1, this pair of links is NSTR.

(Motion 122)

The STR capability of a non-AP MLD on a pair of setup links may change after multi-link setup. The non-AP MLD may use TBD signaling on any enabled link to inform the AP MLD about such a capability change.

(Motion 112, #SP4)

The details of capability signaling are TBD.(Motion 112, #SP4)

An MLD can simultaneously operate over a STR link pair as described in 33.x.y2 (STR: General).

An MLD can simultaneously operate over an NSTR link pair as described in 33.x.y2 (Non-STR: General) and 33.x.y3 (End PPDU alignment).

An MLD in multi-link single-radio mode can operate over one or more links as described in 33.x.y2 (Multi-link single radio) .

An MLD in enhanced multi-link single-radio mode can operate over one or more links as described in 33.x.y3 (Enhanced multi-link single radio).

**Straw Poll: Do you support to incorporate the proposed draft text in this document 11-20/1320r4 to the TGbe Draft 0.1?**

**Result: Yes/No/Abstain**