IEEE P802.11
Wireless LANs

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| Fragmentation in MLO |
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 Abstract

This submission provides guidance on dynamic fragmentation with MLO

**Revisions:**

* Rev 0: Initial version of the document.

***TGbe editor: Baseline for this document is REVme D7.0 and TGbe D7.0***

**Discussion:**

Per the 802.11be spec (see clause 35.3.9), non-dynamic fragmentation is disallowed when operating in MLO mode. Dynamic fragmentation is not disallowed. However, spec does not provide any guidance on how to use dynamic fragmentation when operating in MLO mode. As a result, in practice, devices can’t use dynamic fragmentation in MLO mode. A non-AP that is struggling and needs to perform fragmentation is required to disassociate and reassociated as single link to perform non-dynamic fragmentation. Disassociation is disruptive and will further impact the non-AP’s performance. The IEEE 802.11 standard needs to fill-in the gap and provide guidance on how dynamic fragmentation would work in MLO mode. This contribution provides guidance on dynamic fragmentation will work when operating in MLO mode.

**Summary of changes:**

* Specifies that all links of an MLD advertise the same level of support for dynamic fragmentation in the HE Capabilities element.
* Keeps implementation simple (i.e., not have to chase which link received which fragment) by having all fragments of an MSDU be transmitted on the same link.
* Fixed the terminology in the existing spec to align with the terms used in the rest of the standard (adds missing hyphen in nondynamic).

**35.3.9 Fragmentation in multi-link operation**

***TGm editor: Please add a hyphen (-) to “nondynamic” in this sentence as shown below:***

A STA affiliated with an MLD shall not use the non-dynamic fragmentation procedure described in 10.4 (MSDU, A-MSDU, and MMPDU fragmentation).

***TGm editor: Please add the following paragraphs to this subclause as shown below:***

A STA affiliated with an MLD may use dynamic fragmentation as described in 26.3 (Fragmentation and defragmentation) subject to the following additional requirements:

* The Dynamic Fragmentation Support and A-MSDU Fragmentation Support fields in the HE Capabilities elements transmitted by each STA affiliated with the same MLD shall be set to values that are identical across all STAs.
* If the first dynamic fragment of an MSDU, A-MSDU or MMPDU is sent on an enabled link then all the remaining fragments of that MSDU, A-MSDU, or MMPDU shall be sent on that same enabled link.

If a STA is required to fragment an MSDU or MMPDU so that the initial transmission of the first fragment does not cause the TXOP/PPDU limit to be exceeded (see 10.23.2.9) then the STA shall either use dynamic fragmentation (while conforming to the rules described above) or reassociate as a STA that is not affiliated with an MLD (so that it can use non-dynamic fragmentation).