IEEE P802.11
Wireless LANs

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| Proposed Spec Text-TBDUsage and Rules of ML element in the context of Multi-link Setup |
| Date: 2020-01-12 |
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Abstract

This submission proposes a modified spec text for usage and rules of ML element in the context of multi-link setup to be incorporated into 801.11be D0.3

Revisions:

* Rev 0: Initial version of the document.

1. Introduction

We’ve agreed a modified format of ML IE (e.g., the change of field name, including Type subfield and Per-STA Control field). Therefore, I’ve resolved relevant parts in terms of multi-link setup. Also, I added the usage of the Link ID subfield of Per-STA Control field of the Per-STA Profile subelement during multi-link setup.

2. Proposed Spec texts

***TGbe editor: Please Modify the title of subclause 35.3.5.4 from Usage and Rules of ML element in the context of multi-link setup to Usage and Rules of ML element in the context of multi-link (re)setup as follows:***

***TGbe editor: Please modify the subclause 35.3.5.4 (Usage and Rules of ML element in the context of multi-link (re)setup) as follows:***

35.3.5.4. Usage and Rules of Multi-Link element in the context of multi-link (re)setup

A non-AP MLD may initiate a multi-link setup with an AP MLD to setup more than one link with a subset of APs that are affiliated with the AP MLD. When a non-AP MLD initiates a multi-link setup with an AP MLD, a non-AP STA that is affiliated with the non-AP MLD shall transmit an (Re-)Association Request frame on the link it is operating on. An AP that is affiliated with the AP MLD and that received the(Re-)Association Request frame shall transmit an (Re-)Association Response frame.

The non-AP STA shall include a Basic variant Multi-Link element in the (Re-)Association Request frame that it transmits.

The Basic variant Multi-Link element carried in the (Re-)Association Request frame shall include the Common Info field and the Link Info field.

The Common Info field of the Basic variant Multi-Link element carried in the (Re-)Association Request frame shall include the MLD MAC address of the MLD with which the non-AP STA is affiliated by setting the MLD MAC Address Present subfield of the Multi-Link Control field of the Basic variant Multi-Link element to 1.

The Link Info field of the Basic variant Multi-Link element carried in the (Re-)Association Request frame shall include one or more Per-STA Profile subelement(s), each of which contains the complete information (such as capabilities) of a non-AP STA affiliated with the non-AP MLD and corresponding to a link that is requested for multi-link setup and shall set the Complete Profile subfield of the Multi-Link Control field of the Basic variant Multi-Link element to 1.

The Link ID subfield of Per-STA Control field of the Per-STA Profile subelement for the corresponding non-AP STA that requests a link for multi-link setup with the AP MLD is set to the link ID of an AP of the AP MLD that is operating on that link. The link ID is obtained during discovery.

The AP shall include a Basic variant Multi-Link element in (Re-)Association Response frame that it transmits.

The Basic variant Multi-Link element carried in the (Re-)Association Response frame shall include Common Info field and Link Info field.

The Common Info field of Basic variant Multi-Link element carried in the (Re-)Association Response frame shall include the MLD MAC address of the MLD with which the AP is affiliated by setting MLD MAC Address Present subfield of Multi-Link Control field of the Basic variant Multi-Link element to 1.

The Link Info field of the Basic variant Multi-Link element carried in the (Re-)Association Response frame shall include one or more Per-STA Profile subelement(s), each of which contains the complete information (such as capabilities and operational parameters) of an AP affiliated with the AP MLD and corresponding to a link that is accepted by the AP MLD and requested by the non-AP MLD and shall set the Complete Profile subfield of the Multi-Link Control field of the Basic variant Multi-Link element to 1.

The Link ID subfield of Per-STA Control field of the Per-STA Profile subelement for the corresponding AP that accepts a link requested by an STA of non-AP MLD with a non-AP MLD is set to the link ID of the AP of the AP MLD that is operating on that link.

Each Per-STA profile subelement included in the Basic variant Multi-Link element carried in the(Re-)Association Request frame and the (Re-)Association Response frame shall not include another Basic variant Multi-Link element.

An STA affiliated with an MLD shall include a Basic variant Multi-Link element containing the MLD MAC address of the MLD with which the STA is affiliated in the Authentication frame that it transmits.

An STA, which is affiliated with an MLD, may select and manage its operating parameters independently from the other STA(s) affiliated with the same MLD, unless specified otherwise.