IEEE P802.11
Wireless LANs

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| Discussion on Dynamic Fragmentation Level 3 |
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Abstract

This submission discusses the issues of the 11ax dynamic fragmentation level 3, propose the changes in the current 11ax Draft 2.0

**Discussion**

11ax dynamic fragmentation level 0, 1, 2 & 3 are defined in HE Capability element Fragmentation Support subfield in Table 9-262z (Subfields of the HE MAC Capabilities Information field):



The corresponding changes in BlockAck & M-STA BlockAck frames to support dynamic fragmentation levels are defined in the Table 9-24a (Fragment Number subfield encoding for the Compressed BlockAck variant), and in the Table 9-24c (Fragment Number subfield encoding for the Multi-STA BlockAck variant):





**Issue:**

Dynamic fragmentation level 3 assumes that the transmitter will fragment any MSDUs or A-MSDUs in an A-MPDU into up to 4 separate fragments:



But in the realistic cases, there will be just have two cases level 3 dynamic fragments are needed with at most two MSDUs/A-MSDUs are fragmented with at most 3 fragments in total:



But the current Level 3 dynamic fragment support in Compressed BlockACK and M-STA BlockACK reduces the total number of MSDUs can be acknowledged to a quarter of bitmap capacity.

**Proposed solution:**

Since there are most only 3 fragments can be in an A-MPDU, instead of redefine the Block bitmap for Level 3 dynamic fragmentation, suggest to keep the bitmap field “as is”, and use the 3 LSBs of Fragmentation Number in Block Starting Sequence Control subfield to carry the acknowledge information of up to 3 fragments in receiving order:



SP1

Do you agree that the current Level 3 dynamic fragmentation support in Compressed BlockACK and M-STA BlockACK is inefficient of using the bitmap?

Y/N/A

SP2

Do you agree the proposed solution of using Fragment Number subfield only to acknowledge Level 3 dynamic fragments in Compressed BlockACK and M-STA BlockACK?

Y/N/A