IEEE P802.11
Wireless LANs

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| Delayed BRP feedback |
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Abstract

This document suggests a method to delay the feedback to a BRP packet by allowing a device to indicate when it will be ready with the feedback.

Changes are based on Draft 0.40

**Discussion**:

In many cases, it may take a long time to calculate the feedback to a BRP frame and format it. We propose that if a device cannot be ready with a formatted feedback, it will respond with a comeback delay, indicating when it is going to be ready. The initiator (the device requesting the feedback), may request the feedback (using a BRP frame with no TRN fields, and with the same dialog token), after the comeback delay. If the comeback delay is larger than the current TxOP, the responder may send the feedback in its own TxOP (unsolicited).

***TGay Editor modify the EDMG BRP request element format figure (P40 in D0.35)***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 B7 | B8 B15 | B16 B23 | B24 B31 | B32 B39 | B40 B50 | B51 B52 | B53 B56 | B57 B58 |
|  | Element ID | Length | Element ID Extension | L-RX | L-TX-RX | TX Sector ID | EDMG TRN-Unit P | EDMG TRN-Unit M | EDMG TRN-Unit N |
| Bits: | 8 | 8 | 8 | 8 | 8 | 11 | 2 | 4 | 2 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B59 | B60 | B61 B69 | B70 B75 | B76 B83 | B84 B86 | B87 |
|  | TXSS-REQ | TXSS-REQ-RECIPROCAL | TXSS-SECTORS | BRP CDOWN | TX Antenna Mask | Comeback Delay | Reserved |
| Bits: | 1 | 1 | 9 | 6 | 8 | 3 | 1 |

1. —EDMG BRP Request element format

***TGay Editor: Add the following text at the end of 9.4.2.255***

The Comeback Delay field indicates that the STA will not be ready with the feedback within BRPIFS. The value in the comeback delay field indicates when the device will be ready with feedback. The interpretation of the field is according to Table 1.

Table 1- Interpretation of the Comeback Delay field

|  |  |
| --- | --- |
| Value | Meaning |
| 0 | Feedback is ready within this frame |
| 1 | 64usec |
| 2 | 128usec |
| 3 | 256usec |
| 4 | 512usec |
| 5 | 768usec |
| 6 | 1024usec |
| 7 | 2048usec |

***TGay Editor: Add the following text after the penultimate paragraph in P1563 of 802.11-16***

An EDMG STA responding to a transmit beam refinement training request in which the EDMG-SHORT-BRP subfield was set to 0, may respond within MBIFS with a BRP frame in which the comeback delay field in the EDMG BRP request element is set to a non-zero value, indicating that it will not be ready with the feedback within BRPIFS from the request. The value in the comeback delay field indicates when the responding STA will be ready. The requesting STA may send a BRP frame with no training requests and a feedback request after the comeback delay has passed, with the same dialog token as the frame that originaly solicited the response and the responding STA shall respond with feedback withing MBIFS. If the TxOP ended before the comeback delay, the responder may send the feedback in a BRP frame that is used to obtain a TxOP or inside its own TxOP. The dialog token within the feedback frame shall be the same as in the BRP frame soliciting the response.

***TGay Editor: Add the following text after 4th paragraph in P1564 of 802.11-16***

An EDMG STA responding to a TXSS sector list feedback request in which the EDMG-SHORT-BRP feedback subfield was set to 0, may resond within MBFIS with a BRP frame in which the comeback delay field in the EDMG BRP request element is set to a non-zero value, indicating that it will not be ready with the feedback within BRPIFS from the request. The value in the comeback delay field indicates when the responding STA will be ready. The requesting STA may send a BRP frame with no training requests and a the same type of feedback request after the comeback delay has passed, with the same dialog token as the frame that originaly solicited the response and the responding STA shall respond with feedback within MBIFS. If the TxOP ended before the comeback delay, the responder may send the feedback in a BRP frame that is used to obtain a TxOP or inside its own TxOP. The dialog token within the feedback frame shall be the same as in the BRP frame soliciting the response.