Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	ARQ selective bitmap – bitmap size is in 16bits resolution
Date Submitted	**2004-08-25**
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Re:	IEEE P802.16d/D5-2004
Abstract	ARQ selective bitmap – bitmap size is in 16bits resolution, the std does not specify a way for the receiver to give feedback for number of blocks which is not 16*N. We suggest decrementing the base block-number (BSN) by X, and increment the bitmap size by X so it will be 16*N, then pad with '1's the bitmap start.
Purpose	"
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ARQ selective bitmap – bitmap size is in 16bits resolution

Assaf Mor

1. Motivation

ARQ selective bitmap size is in 16 bits resolution, the std does not specify a way for the receiver to give feedback for number of blocks which is not 16*N.

We suggest decrementing the base block-number (BSN) by X, and increment the bitmap size by X so it will be 16*N, then pad with '1's the bitmap start.

2. Changes summary

[Add the following text in the end of the third paragraph of section 6.3.4.2 "ARQ feedback IE format ":]

BSN
If (ACK Type == 0x0): BSN value corresponds to the most significant bit of the first 16-bit ARQ ACK map.
If (ACK Type == 0x1): BSN value indicates that its corresponding block and all blocks with lesser (see 6.3.4.6.1) values within the transmission window have been successfully received.
If (ACK Type == 0x2): Combines the functionality of types 0x0 and 0x1.
If (ACK Type == 0x3): Combines the functionality of type 0x1 with the ability to acknowledge reception of ARQ blocks in terms of block sequences. A block sequence is defined as a set of ARQ blocks with consecutive BSN values. With this option, members of block sequences are identified and associated with the same reception status indication.

Selective ACK Map
Each bit set to one indicates the corresponding ARQ block has been received without errors. The bit corresponding to the BSN value in the IE, is the most significant bit of the first map entry. The bits for succeeding block numbers are assigned left-to-right (MSB to LSB) within the map entry. If the ACK Type is 0x2, then the most significant bit of the first map entry shall be set to one and the IE shall be interpreted as a cumulative ACK for the BSN value in the IE. The rest of the bitmap shall be interpreted similar to ACK Type 0x0.

"If (ACK Type == 0x0 or 0x2): in order to use the 16bit aligned bitmaps, the receiver should pad the most significant bits of the first map entry with '1's so that the total number of bits in the bitmaps will be 16bits multiplication. In addition, the receiver should decrement the BSN by the pad size."