Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	FAST-FEEDBACK processing time definition
Date Submitted	**2004-08-18**
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Re:	IEEE P802.16REVd/D5-2004
Abstract	Insert missing definition for FAST-FEEDBACK processing time, and location in frame.
Purpose	Adopt changes
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FAST-FEEDBACK processing time definition

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1. Motivation

When BS polls SS for fast-feedback using the fast feedback subheader, the fast-feedback reply is due in the next OFDMA frame (see 6.3.2.2.6). However, a definition of processing time is required (similar to Tproc in table 340), since the DL of the current frame may be close to the UL of the next frame (in FDD or TDD when UL/DL ratio is dynamic).

In addition, the handling of fast-feedback as defined in D5 is in some senses more demanding than handling of UL-MAP: The UL-MAP appears as the first burst in the DL subframe, however for fast feedback subheader, it can appear anywhere in the frame, can appear on any of the SS-s CIDs and may also be encrypted (being a subheader). It seems that this message is wrongly located as a subheader (subheaders are used in higher layers in the MAC such as frag/pack and may be handled off-line), and poses strict turnaround requirements on those layers, that otherwise would not be required.

2. Details

We propose the following definition:

1. The processing time for fast feedback will be frame duration in TDD and 1/2 frame duration in FDD. The processing time is defined from the end of the burst carrying the fast feedback subheader, to the start of the UL-subframe carrying the fast feedback response. Note that the SS may need to change the transmission power of normal bursts to accommodate fast feedback transmission, therefore in general case, it needs to finish parsing the fast feedback subheader before the start of the relevant UL-subframe.
2. To mitigate requirements on MAC, define that for each SS, fast feedback subheader must appear only in the first unicast PDU addressed to that SS.

3. Changes summary

6.3.2.2.6 FAST-FEEDBACK allocation subheader

[Add the following text at the end of the first paragraph]

For each SS, a FAST-FEEDBACK subheader may appear only in the first unicast PDU addressed to that SS.

10.1 Global values

[Add the following entry in table 340]

System	Name	Time reference	Minimum value
BS,SS	FAST-FEEDBACK processing time	The time allowed between the end of the burst carrying the FAST-FEEDBACK subheader and the start of the UL-subframe carrying the FAST-FEEDBACK response.	TDD: Frame duration FDD: 1/2 Frame duration