	IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>
Title	**Request for a CQICH Channel Allocation on a FBSS**
Date Submitted	**2005-01-10**
Source(s)	Hyunjeong Kang, HyoungKyu Lim, Jungje Son, Changhoi Koo, Hongsung Chang Samsung Electronics 416, Maetan-3dong, Youngtong-gu, Suwon-si, Gyeonggi-do, Korea Voice: +82-31-279-5084 Fax: +82-31-279-5130 mail to: hyunjeong.kang@samsung.com, hk03.lim@samsung.com jungje.son@samsung.com, chkoo@samsung.com, hschang7@samsung.com
Re:	IEEE P802.16e/D5a
Abstract	This contribution proposes the scheme with which MSS can request a new anchor BS to allocate CQICH channel.
Purpose	Discussion and Adoption in IEEE 802.16e
Notice	
Release	
Patent Policy and Procedures	

Request for a CQICH Channel Allocation on FBSS

Hyunjeong Kang, HyoungKyu Lim, Jungje Son, Changhoi Koo and Hongsung Chang
Samsung Electronics

Problem Statement

FBSS using fast feedback channel provides a handover from a BS to another BS without handover message overhead. When a MSS needs a connection change from the current anchor BS to the selected anchor BS, it shall transmit BS switching indicator via its fast feedback channel allocated from the current anchor BS. The MSS switching to the new anchor BS shall receive a fast feedback channel for communication with the new anchor BS. The fast feedback channel is allocated by handover messages or Anchor_Switch_IE while the MSS communicates with the current anchor BS. The channel is also allocated at the new anchor BS after the BS switching.

In current D5a, if after switch, the MSS does not receive a fast feedback channel, it may start the network re-entry procedure with the new anchor BS. But the procedure is not clear and causes delay. Therefore, there is a need that the MSS requests the new anchor BS to allocate the fast feedback channel without delay due to the network re-entry operation.

Suggested Remedy

We propose a method that the MSS which does not receive a fast feedback channel after BS switching operation makes a request for the fast feedback channel allocation by sending Bandwidth Request header. For the request, the MSS sets Type field in Bandwidth Request header to 111. If the new anchor BS receives Bandwidth Request with Type=111, the BS recognizes that it shall allocate a fast feedback channel for the MSS. The BS transmits MAP including the fast feedback channel allocation information for the MSS.

Therefore we propose the remedies as follows:

- Extend the Bandwidth Request header for MSS which does not receive a fast feedback channel after BS switching and requests a new anchor BS to allocate the fast feedback channel.
  - If Type field is set to 111, it means the request for a fast feedback channel.
- Clarify the operation of the MSS which does not receive a fast feedback channel at a new anchor BS after BS switching operation.

Proposed Text Change

[Remedy 1: Insert the followings after Table 5a at page 14]

6.3.2.1.2 Bandwidth request header

[Change the followings of Section 6.3.2.1.2]

The Bandwidth Request shall have the following properties:

d) The Bandwidth Request (BR) field shall indicate the number of bytes requested. This field may be set to zero if Type is set to 111.

e) The allowed types for bandwidth requests are "000" for incremental and "001" for aggregate and "111" for CQICH channel allocation request.

[Remedy 2: Change the followings after line 25 at page 138]

If after the switch, the MSS does not receive a CQICH allocation within duration equals to the switching period, ~~the MSS may start the HO network re-entry with the new anchor BS (e.g. BS B)~~ the MSS requests the new anchor BS (e.g. BS B) to allocate CQICH channel by transmitting Bandwidth Request header with Type=111. If the new anchor BS (e.g. BS B) receives Bandwidth Request with Type 111, the BS shall allocate a CQICH for the MSS.