Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>
Title	Enhancement Feature for Robust Multimedia Broadcasting
Date Submitted	[2004-06-25]
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Re:	This contribution is for reply of IEEEP802.16e/D3 recirculation.
Abstract	This contribution proposes the physical enhancement feature for robust multimedia broadcasting service.
Purpose	Discussion and Adoption in IEEE 802.16e
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Enhancement Feature for Robust Multimedia Broadcasting

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Introduction

This contribution propose enhancement feature to achieve better transmitting and receiving efficient for mu ltimedia broadcasting service.

When we transmit traffic for multimedia broadcasting service based on current IEEE802.16 draft, after FE C, interleaving and modulation, we should transmit multimedia broadcasting traffic in continuous time. T herefore this traffic occupies only short time in air, we cannot achieve time diversity. Furthermore since it should be broadcasted to multiple MSS, we cannot use several method such as downlink power control to overcome fading.

In this contribution, we propose the way to achieve time diversity, with which we can make downlink trans mission time for multimedia broadcasting traffic to be greater than coherent time of wireless channel.

Proposed Mechanism

In this contribution, as shown in figure 1, we propose the way BS transmit multimedia broadcasting traffic with time diversity. Time multiplexing is the scheme that divides the coded symbols from encoder into mul tiple symbols and transmits each during discontinuous time interval.

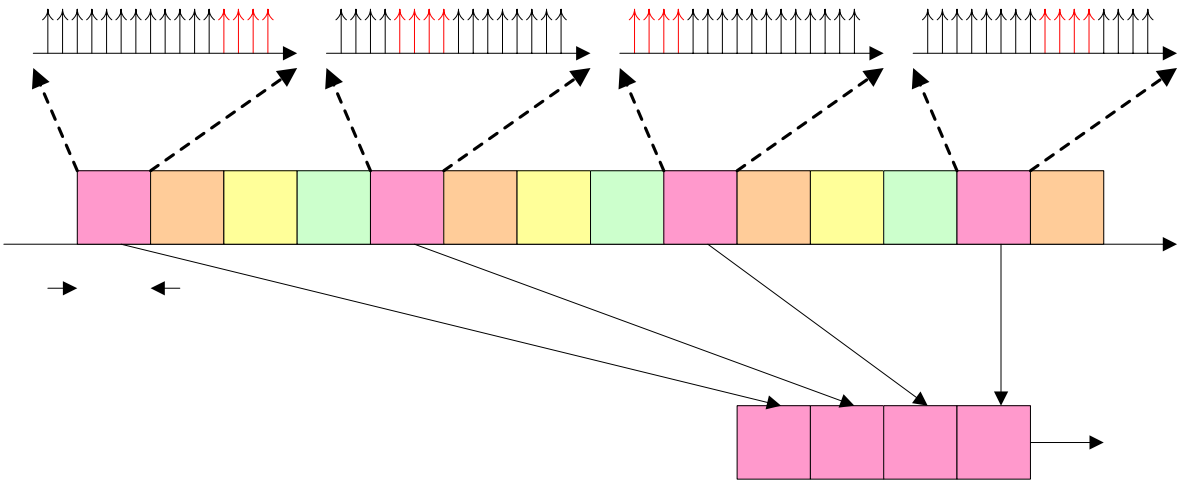

Figure 1 Time multiplexing for OFDMA

To support time multiplexing as shown in figure 1, we should make another DL-MAP_IE.

Proposed Text Changes

8.4.5.3.12 Broadcast_DL-MAP_IE

In the DL-MAP, a BS may transmit DIUC=15 with the Broadcast_DL-MAP_IE() to indicate that traffic for multimedia broadcast service is transmitted. A multimedia broadcast packet should be divided to 4 subpac

kets and notified at different Broadcast_DL-MAP_IE() with different time position. First allocation of Broadcast_DL-MAP_IE() should start with SPID=0 in a frame. The subsequent allocations shall use next SPID, increased by 1.

Table ?? – Broadcast_DL-MAP_IE

Syntax	Size	Notes
Broadcast_DL-MAP_IE{	__	__
Extended DIUC	4 bits	Broadcast Service = ??
Length	4 bits	Length of the IE in Bytes
N_CID		Number of CID for Broadcasting Service
For(i=0;i<N_CID;i++){		
CID	16bits	CID of each Broadcasting Service
MBS_ZONE_Identifier	8 bits	MBS Zone ID
SPID	2 bits	Subpacket ID
OFDMA Symbol Offset	8 bits	
Subchannel Offset	6 bits	
No. OFDMA Symbols	6 bits	
NO. Subchannels	6 bits	
DIUC	4 bits	
}		
}		

SPID
subpacket ID of MBS burst
Extended DIUC
DIUC used for the burst.
Connection Identifier (CID)
Represents the assignment of the IE to a broadcast or multicast address.
OFDMA Symbol offset
The offset of the OFDMA symbol in which the burst starts, measured in OFDMA symbols from beginning of the downlink frame in which the DL-MAP is transmitted.
Subchannel offset
The lowest index OFDMA subchannel used for carrying the burst, starting from subchannel 0.
No. OFDMA Symbols
The number of OFDMA symbols that are used (fully or partially) to carry the downlink PHY Burst.
No. of subchannels
The number of subchannels with subsequent indexes, used to carry the burst.