

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Zone-based Multicast Broadcast Service (MBS)	
Date Submitted	2007-11-11	
Source(s)	Sang G. Kim, Li-Hsiang Sun, Shu Wang, and Ki-Dong Lee LG Mobile Research U.S.A.* San Diego, CA 92131	Voice: 858-635-5294 E-mail:sanggook@lge.com *< http://standards.ieee.org/faqs/affiliationFAQ.html >
Re:	[Cite the specific document number of the appropriate Call for Contributions, the ballot number, etc. Contributions that are not responsive to this section of the template, may be refused or assigned a low priority for review.]	
Abstract	Typical multicast and broadcast services (MBS) system would provide services in a zone-based manner. However, transmission at zone-edge cells experience performance degradation for reception due to the interference from neighboring zones with different contents. We propose the methods to alleviate the problem.	
Purpose	To be discussed and adopted by TGM for use in the 802.16m SDD	
Notice	<i>This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups. It represents only the views of the participants listed in the "Source(s)" field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein.</i>	
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.	
Patent Policy	The contributor is familiar with the IEEE-SA Patent Policy and Procedures: < http://standards.ieee.org/guides/bylaws/sect6-7.html#6 > and < http://standards.ieee.org/guides/opman/sect6.html#6.3 >. Further information is located at < http://standards.ieee.org/board/pat/pat-material.html > and < http://standards.ieee.org/board/pat >.	

Zone-based Multicast Broadcast Service (MBS)

Sang G. Kim, Li-Hsiang Sun, Shu Wang, and Ki-Dong Lee
LG Electronics

Suggested ToC Topic for IEEE 802.16m SDD: Enhancements on Multicast and Broadcast Services (MBS)

Title: Zone-based MBS

Description: Typically, multicast and broadcast services (MBS) would be provided in a zone-based manner. Figure 1 is a diagram of an exemplary zone structure for MBS.

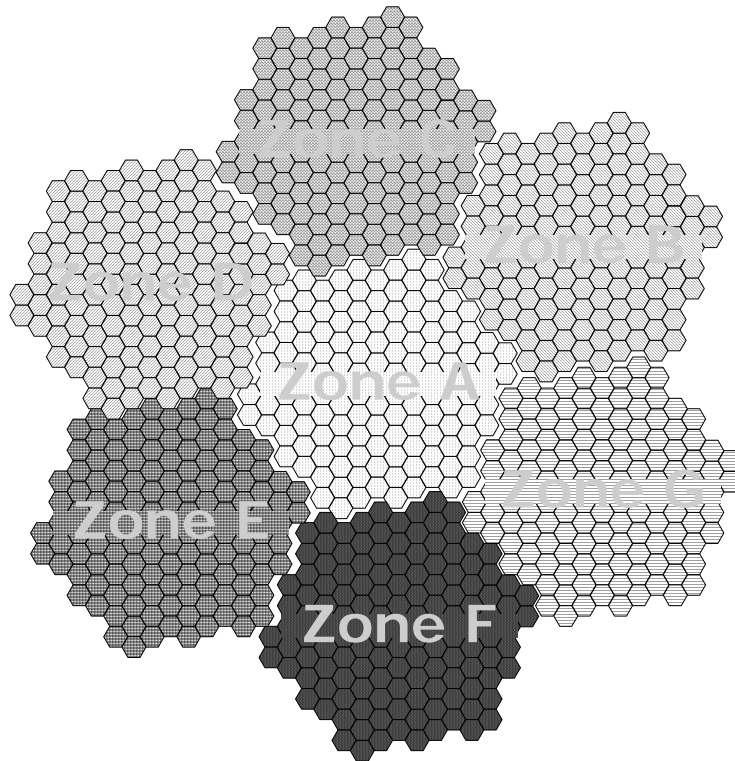


Figure 1: Exemplary Zone Structure for MBS

In a zone-based MBS, independent and different BCMCS flows are serviced for each zone, where each zone consists of multiple base stations covering a certain area. The base stations that belong to the same zone will transmit the same broadcast contents. Therefore, mobile stations will try to combine the packets from multiple base stations that belong to the same zone to obtain diversity gain.

The problem in a zone-based MBS is that certain base stations have channel environments that are quite different from other base stations.

Redundant transmission in time and/or frequency domains is proposed to alleviate the problem stated above. Figure 2 shows exemplary redundant transmission in time domain.

Related Area(s) in SRD: Section 6.7: Enhanced multicast broadcast service

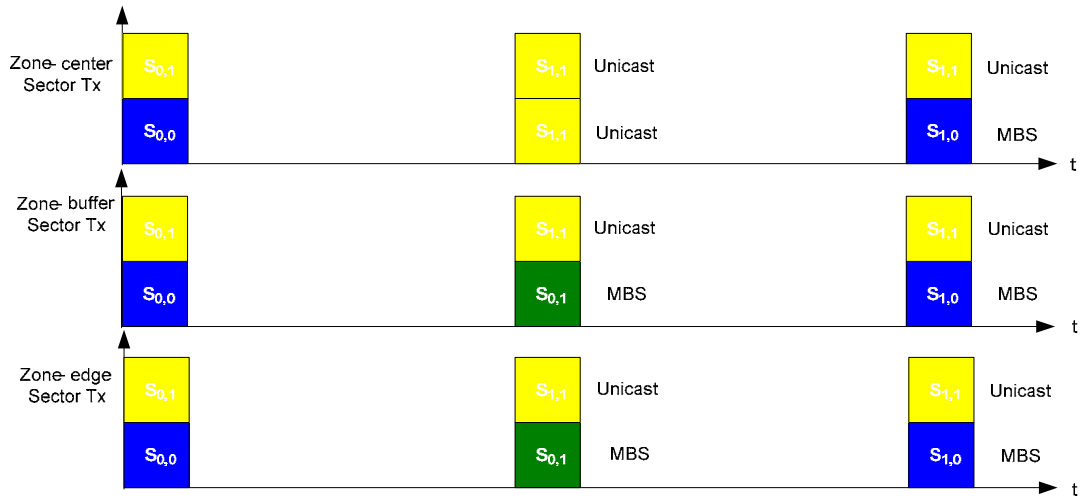


Figure 2: Redundant Transmission in Time Domain for Zone-based MBS