Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**RS access link safety region.**
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Re:	Call for technical proposals 802.16j-07/007r2.
Abstract	In case of distributed control MR system where the RS is responsible for allocation of resources on the access link, there is no mechanism to enable the MR-BS (or superordinate RS) to indicate to a sub-ordinate RS to reserve a region of the access link for non-transmission at that RS. This contribution modifies the MAC management message used for configuring the relay frame structure to enable indication of regions reserved for non-transmission on the RS's access link.
Purpose	For discussion and approval of inclusion of the proposed text into the P802.16j baseline document.
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RS access link safety region

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Introduction

In a MR network with distributed control [1], the RS is responsible for resource allocation on its access link, constructing the DL and UL MAP information and associated IEs in the RS. Consequently, there exists no mechanism that enables the MR-BS (or superordinate RS) to send a message to the RS to instruct it not to allocate a region of the access downlink at the RS for transmission to the SSs that it serves. The same situation also exists for the access uplink controlled by the RS.

In order to allow an MR-BS (or RS) to indicate to the RS a region that is reserved for non-transmission on its access downlink and access uplink a modification to the Relay_Frame_configuration message (6.3.2.3.77 [1]) is proposed to indicate the reserved or "safety" region on the access downlink and uplink, respectively. The RS upon receiving an Relay_Frame_configuration message with definition of a safety region shall reserve this region in the access DL or UL in the next frame through a D/UIUC=13 allocation.

Proposed text

Change the table in 6.3.2.3.77 as indicated:

Syntax	Size	Notes
Relay_Frame_configuration_Message_format(){		
Management Message Type =TBD	8 bits	
Frame Number	4 bits	Frame number to take effect
DL indicator	1 bit	1 : indicates DL subframe configuration are included
UL indicator	1 bit	1: indicates UL subframe configuration is included
Reserved	2 bits	
if(DL indicator = 1) {		
Number of frame	8 bits	
for(i=0; i<Number of frame; i++){		
Number of relay zones	2 bits	
Number of access DL safety regions	2 bits	
reserved	64 bits	
for(j = 0; j<Number of relay zone; j++){		
Transceiver mode	2 bits	00: Tx mode 01: Rx mode 11: Idle mode
OFDMA Symbol Offset	8 bits	
Duration	6 bits	
}		

for(j = 0; j<Number of access DL safety regions; j++){		
OFDMA symbol offset	8 bits	
OFDMA subchannel offset	8 bits	
Number of OFDMA symbols	7 bits	
Number of subchannels	6 bits	
Reserved	3 bits	Shall be set to zero.
}		
}		
}		
if(UL indicator = 1){		
Number of frame	8 bits	
for(i =0; i<Number of frame; i++){		
Number of relay zone	2 bits	
Number of access UL safety regions	2 bits	
Reserved	~~6~~4 bits	
for(j = 0; j<Number of relay zone; j++){		
Transceiver mode	2 bits	00: Tx mode 01: Rx mode 11: Idle mode
OFDMA Symbol Offset	8 bits	
Duration	6 bits	
}		
for(j = 0; j<Number of access UL safety regions; j++){		
OFDMA symbol offset	8 bits	
OFDMA subchannel offset	7 bits	
Number of OFDMA symbols	7 bits	
Number of subchannels	7 bits	
Reserved	3 bits	Shall be set to zero.
}		
}		
}		
Padding		
}		

References

[1] 802.16j-06/026r3