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Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >	
Title	RS Configuration Description Message	
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Re:	A response to a Call for Technical Proposal, <a href="http://www.ieee802.org/16/relay/docs/80216j-07_007r2.pdf">http://www.ieee802.org/16/relay/docs/80216j-07_007r2.pdf</a>
Abstract	With relay station introduced, some configuration parameters specific for normal operation of RS may be required. This contribution introduces a new broadcast message used to broadcast configuration parameters specific for RS operation.
Purpose	To incorporate the proposed text into the P802.16j Baseline Document (IEEE 802.16j-06/026r2)
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## **RS Configuration Description Message**

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III {Hramonized with 802.16j-217r3}

### **1. Introduction**

With relay station introduced, some configuration parameters specific for normal operation of RSs are required. There are some examples, such as, ranging back-off, radio environment report threshold, HARQ related parameters, frame structure configuration, and so on. In current baseline documents, the configuration for frame structure is sent through Relay frame configuration message (6.3.2.3.77) and the RS-able transmission/monitoring configuration is sent in RS\_Config-REQ message (6.3.2.3.66). The contents included

in Relay frame configuration message and contents of RS-able transmission/monitoring parameters shall be considered as RS system operation parameter configuration.

The 802.16j-07\_217 contribution suggested to introduce a message called “RS Configuration Description message” dedicated to declare configuration parameters specific for RS operation thus reducing the types of the 802.16j MAC management messages.

In the harmonization process we include only the new TLV addition, in order to inform the RS about the frame in which its uplink allocation is effective.

## 2. UL allocation start time

The TLV introduced in this contribution indicates the effective start time of the uplink allocation defined by the R-MAP on R-link. If the effective start time is defined as 0, the uplink allocation defined by the R-MAP is effective in the current frame; if the value of this TLV is set to N, the uplink allocation defined by the R-MAP in frame  $i$  is effective in frame  $i + N$ .

## 3. Proposed text change

*[Modify the table in the 6.3.2.3.77 as indicated below. This was already modified by the previously accepted.]*

[contribution 802.16j-07\\_217r5\]](#)

Table XXX. RS\_configuration description (RS-CD) message format.

Syntax	Size	Notes
RS_CD format {		
Management message type = TBD	8 bits	
Configuration_para_type	8 bits	b0 = 1, Frame Structure-Configuration is included. b1 = 1, R-amble transmission/monitoring parameters are included. b2 - b7: reserved
If (b0 of Configuration_para_type == 1) {		
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	

Reserved	6 bits	
For (j=0; j <Number of relay zones; j++) {		
Transceiver mode	2 bits	00 : Tx mode, 01 :Rx mode, 11 :Idle mode
OFDMA Symbol Offset	8 bits	
Frame_Config_Duration	6 bits	
}		
}		
}		
If (UL indicator ==1){		
Number of frame	8 bits	
for (i=0; i< Number of frame; i++) {		
Number of Relay Zones	2 bits	
Reserved	6 bits	
For (j=0; j <Number of relay zones; j++) {		
Transceiver mode	2 bits	00 : Tx mode, 01 : Rx mode, 11 : Idle mode
OFDMA Symbol Offset	8 bits	
Frame_Config_Duration	6 bits	
}		
}		
}		
If (b1 of Configuration_para_type == 1) {		
Start Frame Number	8 bits	8 LSB bits of the frame number

Monitoring Duration	8 bits	Units are frames
Prefix	2 bits	00: The R-amble transmission and reception is instructed by MR-BS. 01: The R-amble transmission and measurement shall be performed autonomously. 10: The RSs shall report its neighbor measurement results. 11: <i>reserved</i>
If (Prefix == 00){		
Interleaving Interval	8 bits	Units are frames
Iteration Number	8 bits	Units are frames
N_stations	8 bits	Number of stations received this message
For (i=0, i< Iteration, i++){		
N_Transmitter	8 bits	Number of stations to transmit the R-amble
For (j=0, j< N_Transmitter, j++){		
Amble Index	8 bits	The RS with the amble index in this list shall transmit the R-amble
}		
For (j=0, j< N_stations - N_Transmitter, j++){		
Amble Index	8 bits	The RS with the amble index in this list shall receive the R-amble
}		
}		
}		
}		
If (Prefix == 01){		



Config_type	3 bits	<p>Bit [0] = 1: R-amble for synchronization is present.                      Bit [0] = 0: R-amble for synchronization is not transmitted.                      Bit [1] = 1: R-amble for random monitoring is present;                      Bit [1] = 0: any current monitoring operation is to be stopped by all RSs.                      Bit [2] = 1: any RS which does not support subordinate RSs should transmit the R-amble for advertisement purpose                      Bit [2] = 0: any RS which does not support subordinate RSs should not transmit the R-amble.</p>
If ( Config_type[0] == 1){		
Synchronization cycle	8 bits	N, Units are frame (see subsection 8.4.6.1.1.3.1)
Synchronization frame offset	4 bits	Ks, Units are frame (see subsection 8.4.6.1.1.3.1)
}		
If (Config_type[1] == 1){		
Neighbor monitoring cycle	4 bits	M, Units are frame (see subsection 8.4.6.1.1.3.2)
Neighbor monitoring frame offset	4 bits	Km, Units are frame (see subsection 8.4.6.1.1.3.1)
Neighbor monitoring frame repetition	8 bits	L, Units are frame (see subsection 8.4.6.1.1.3.1)
}		
}		

Report Request	1 bit	0: RSSI 1: CINR
}		
}		
<b>Encoded TLV</b>	<b>Variable</b>	
}		

*[Insert the following at the end of Section 6.3.2.3.7]*

The RS-CD message may include the following TLV:

UL allocation start time

This TLV indicates the effective start time of the uplink allocation defined by the R-MAP on R-link. If the effective start time is defined as 0, the uplink allocation defined by the R-MAP is effective in the current frame; if the value of this TLV is set to N, the uplink allocation defined by the R-MAP in frame  $i$  is effective in frame  $i + N$ .

