Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	Relay Configuration Message Consolidation for the Baseline Document {Harmonized with C802.16j-07/308 }
Date Submitted	**2007-05-04**

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Re:	A response to a Call for Technical Proposal, http://wirelessman.org/relay/docs/80216j-07_013.pdf
Abstract	The baseline document 802.16j-026r3.pdf has a poor messaging format for relay configuratio We suggest to combine the similar messages into a unique message for proper message forma
Purpose	To update the proposed text proposal.
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Relay Configuration Message Consolidation for the Baseline Document

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{harmonized with C802.16j-07/308r2}

1 Introduction

The current baseline document has the following RS configuration messages:

- First Table in Section 6.3.2.3.66 (Page 26): RS configuration Request message transmitted from RS to MR-BS for preamble/ RS group related configuration change request (sent at any time including network entry).

- Second Table in Section 6.3.2.3.66 (Page 27): RS configuration Request message from MR-BS to RS to configure the R-amble transmission/measurement pattern (Sent during network entry as a unicast message , at any time as a broadcast configuration change message, at any time to have specific measurement as a multicast/broadcast/multiple unicast messages)

- 6.3.2.3.77: Frame configuration message transmitted by MR-BS to RS (sent during network entry)

- 6.3.2.3.67: MR-BS configuration response message transmitted from MR-BS to RS to configure the preamble index and RS grouping parameters (a unicast message during network entry).

-6.3.2.3.69: RS preamble configuration request message transmitted from MR-BS to RS to assign upto three preambles to an intended RS (a unicast message during network entry).

-6.3.2.3.70: RS preamble configuration response message transmitted by RS to MR-BS to acknowledge whether the specific configuration in 69 is successful or not (during network entry in response to 69)

Clearly, there are similarities among a number of these messages. This happened in the meeting #48 when multiple contributions are approved without having a proper message structure in the baseline document.

2 Remedies

To enable these messaging requirements, we suggest having four message structures as indicated below.

A. RS_Config_RCM: Message from RS to BS recommending a configuration change (i.e. removal of RS group ID) or preferred preamble selection

Message examples:

- RS group assignment change request - First table in 6.3.2.3.66

Recommendation:

Change the name of the first message in 6.3.2.3.66 from RS_Config_REQ to RS_Config_RCM to avoid duplication of names (keep the message as it is without change)

B. RS_Config_REQ: Unicast message from MR-BS to RS during MS mode of operation (network entry) or RS mode of operation (after the network entry). This may be an unsolicited message or a response to group assignment request from the RS.

Message examples:

- Preamble index/indices, individual RSID - 6.3.2.3.67 and 6.3.2.3.69
- If RS belongs to an RS group, group ID - 6.3.2.3.67

Recommendation:

- Combine 6.3.2.3.67 and 6.3.2.3.69.

C. RS_Config_RSP: Message from RS to BS responding to RS_Config_REQ indicating the failure or the success of the BS configuration request.

Message examples:

- RS group assignment change request - Message in 6.3.2.3.70

Recommendation:

- No Change required. Keep the message in 6.3.2.3.70

D. RS_CD: Message from BS to RS providing configuration description to the RS

Message examples:

- R-Amble configuration in 6.3.2.3.66 and frame configuration in Section 6.3.2.77

Recommendation:

- Combine 6.3.2.3.67 and 6.3.2.3.69.
- Not considered here. This is done in C80216j-07_217r2.

3 Proposed text changes:

++++++++++Start text ++++++++++

3.1 Change 6.3.2.3.66 (RS-Config_REQ message) as follows:

{Notes to editor: Change the title of 6.3.2.3.66 as below}

6.3.2.3.66 RS Configuration ~~Request~~ Recommendation Message

{Notes to editor: The following sentence should be added to the end of the first paragraph in 6.3.2.3.66}

An RS may transmit this message unsolicited for the following two purposes, (i) to request removal from an RS group, (ii) to request preamble configuration.

{Notes to editor: Change all the appearances of RS_Config_REQ in Section 6.3.2.3.66 to RS_Config_RCM}

{Notes to editor: Delete all the text and the additional table included there from the comments #054 and #126 and start a new section. Please note that this rearrangement is proposed in C802.16j-07_217r}

3.2 Merge subclause 6.3.2.3.67 (RS-Config_RSP message) and 6.3.2.3.69 as follows:

6.3.2.3.67 MR-BS Configuration ~~response~~ Request Message

This message may be transmitted by an MR-BS for the purpose of RS configuration. An MR-BS may use this message to set operation parameters for an RS. MR-BS may transmit this message as a response to an RS_Config_RCM message or as an unsolicited message.

{Notes to the Editor: Appearing in Blue is the text imported from Section 6.3.2.3.69 which is merged with 6.3.2.3.67 while deleted text due to overlapping is stroked out
Delete 6.3.2.3.69 as now it is merged here}

Syntax	Size	Notes
RS_Config_~~RSP~~REQ format {		
Management message type = 67~~8~~	8 bits	
Configured_para_type	8 bits	b0 = 1: preamble configuration is included; b1 = 1: remove multicast RSID to

		disassociate from the RS group;
		b2 = 1: Unicast RSID is included;
		b3 = 1: Multicast RSID is included;
		b4 = 0; Do not transmit preamble; 1: transmit the assigned preamble.
		b5 – b7: reserved

If (b0 of Configured_para_type == 1) {		
~~Reserved~~	~~1 bit~~	~~Reserved~~
~~Preamble_index~~	~~7 bits~~	~~Premable Index~~
N_Preamble	2 bits	N_Preamble=0 specifies NULL preamble (e.g., Transparent RS) N_Preamble=1 assigns one preamble to the RS N_Preamble=2 assigns two preambles on different segments to the RS N_Preamble=3 assigns three preambles on different segments to the RS
Reserved	6 bits	Reserved
For (i=0, i<N_Preamble; i++){		
Preamble_index	8 bits	Assign a preamble index value to the potential RS
}		
~~TLV Encoded Information~~	~~Variable~~	~~TLV specific~~
}		
If (b2 of Configured_para_type == 1) {		
Unicast RSID	8 bits	Unicast RSID
}		
If (b3 of Configured_para_type == 1) {		
Multicast RSID	8 bits	Multicast RSID as the RS Group ID
}		
TLV Encoded Information	Variable	TLV specific
}		

Configuration_para_type

The first bit is used as preamble index indicator to indicate that the preamble_index field is present in this message. The second bit is used as the indicator to instruct the RS to remove its multicast RSID so that it is disassociated from the current RS group. The third bit is used as the Unicast RSID indicator to indicate the Unicast RSID field is present in this message. The fourth bit is used as the Multicast RSID indicator to indicate the Multicast RSID field is present in this message.

Preamble_index

This field is used to indicate the preamble index

RS_response_required

This field is used to enable RS to accept/deny the preamble assignment.

Unicast RSID

This field is used to indicate the Unicast RSID

Multicast RSID

This field is used to indicate the Multicast RSID for RS group operations

N-Preamble

N_Preamble is the number of preamble index assigned to the potential RS. For example, N-Preamble=0 means the potential RS does not transmit preamble acting as a Transparent RS. ~~If~~ N-Preamble=1 means the potential RS transmits one preamble index (i.e., the RS transmits one segment value and one IDCell) acting as a Non-Transparent RS. ~~If~~ N-Preamble=2 means the

potential RS transmits two preamble indicesex (i.e., the RS transmits two different segment values and IDCells) acting as a Non-Transparent RS.

The RS_Config_REQ shall contain the following TLVs:

HMAC/CMAC Tuple (see 11.1.2)
The HMAC/CMAC Ttuple shall be the last attribute in the message.

3.3 Change Subclause 6.3.2.3 (MAC management messages) as follows:

{Note to Editor: The message numbering in the left column of the following table is to be incorporated as per the editor's discretion. The Section numbers of the Sections 6.3.2.3.XX in the baseline document C802.16j-078-026r3 should be changed according to the message numbers in this table}

6.3.2.3 MAC Management Messages

67	RS-CDC	Cooperative diversity configuration for RS message	Basic *{ Notes to Editor: Currently this is in the Section 6.3.2.3.62 of C802.16j-078-026r3 which needs to be changed to 6.3.2.3.67}*
X1	MR_NBR_INFO	MR-NBR-INFO message	Basic
X2	MR_Code_REP	MR Code Report message	Basic
X3	RS_Config_RCM	RS Configuration Recommendation message	Basic
X4	RS_Config_REQ	RS Configuration Request message	Basic
X5	RS_Config_RSP	RS Configuration Response message	Basic
X6	RS_CD	Relay Configuration Description (RS_CD) message	Basic *{ Notes to Editor: This is in the baseline document Section 6.3.2.3.66 with a different name. The editorial comments are included in C802.16j-078-127r2. }*
X7	CID_ALLOC_IND	CID allocation message	Basic
(X7+1) -255		Reserved	

++++End text++++++