

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Efficient CQICH report method	
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Re:	IEEE 802.16j-07/043: "IEEE 802.16 Working Group Working Group Letter Ballot #28"	
Abstract	Comments on mechanism that RS locally broadcast RNG-RSP message(s) on the access link	
Purpose	Text proposal for 802.16j Draft Document.	
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Efficient CQICH report method

Introduction

In P802.16j/D1, RS needs to relay received MS CQICH information in relay-link CQICH channel. However, because the current scheme that utilizes CQICH channel has high overheads for non-transparent RS, especially for the case of more than two hops. In order to minimize overhead for RS relaying MS CQICH information at the relay path, we propose a message based CQICH relaying scheme that MR-BS pre-schedules uplink bandwidth instead of CQICH channel in the relay link. The proposed scheme is described in Figure 1.

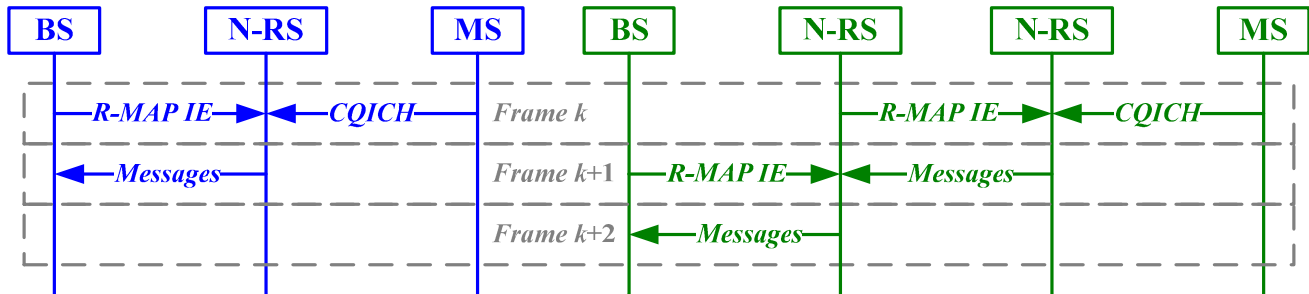


Figure 1 Latencies during the ranging procedure for 2-hop and 3-hop scenarios

In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the draft standard P802.16j/D1 are listed below.

Text Proposal

[Insert the subclause in line 39 of page 76 as indicated]

6.3.2.3.90 MR_CQICH-REP message

This message is used by an RS to relay received MS CQICH information to the MR-BS. This message is transmitted using the RS basic CID.

Table xxx—MR CQICH report (MR_CQICH-REP) message format

Syntax	Size	Notes
<u>MR_CQICH-REP_Message_Format()</u> {	-	-
<u>Management Message Type = xx</u>	8 bits	-
<u>Frame Number Index</u>	8 bits	LSBs of relevant frame number
<u>while(data remain) {</u>	-	Tiles in frequency-first order starting from the first OFDMA symbol. (see Figure 285)
<u>Type</u>	2 bits	0b00: fast-feedback 0b01: enhanced 3-bit MIMO fast-feedback 0b10: enhanced 6-bit MIMO fast-feedback 0b11: reserved
<u>If(Type == 0b00) {</u>		
<u>Reserved</u>	2 bits	Shall be zeros
<u>Payload</u>	4 bits	4-bit payload in the slot
<u>} else if(Type == 0b01) {</u>		
<u>Payload</u>	3 bits	3-bit payload in even title of the slot
<u>Payload</u>	3 bits	3-bit payload in odd title of the slot
<u>} else if(Type == 0b10) {</u>		

<u>Payload</u>	<u>6 bits</u>	<u>6-bit payload in the slot</u>
<u>↓</u>		
<u>↓</u>	<u>=</u>	<u>=</u>
<u>Padding bits</u>	<u>variable</u>	<u>To align byte boundary.</u>
<u>↓</u>	<u>=</u>	<u>=</u>

[Insert new subclause 6.3.28.2 in line 59 of page 155 as indicated:]

6.3.28.2 MS CQICH information relaying

The MR-BS should pre-schedule proper UL bandwidth in relay link for relaying MS CQICH information to the MR-BS after allocating CQICH channel in the RS access link.