Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>	
Title	MS CDMA-based BR with Non-transparent RS	
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Source(s)	Kanchei (Ken) Loa, Yi-Hsueh Tsai, Chih-Chiang Hsieh, Yung-Ting Lee, Hua-Chiang Yin, Shiann-Tsong Sheu, Frank C.D. Tsai, Youn-Tai Lee, Heng-Iang Hsu Institute for Information Industry 8F., No. 218, Sec. 2, Dunhua S. Rd., Taipei City, Taiwan.	Voice: +886-2-2739-9616 loa@iii.org.tw
	Hang Zhang, Peiying Zhu, Mo-Han Fong, Wen Tong, David Steer, Gamini Senarath, Derek Yu, Mark Naden, G.Q. Wang Nortel 3500 Carling Avenue Ottawa, Ontario K2H 8E9 [add co-authors here]	Voice: +1 613 7631315 WenTong@nortel.com pyzhu@nortel.com
Re:	IEEE 802.16j-06/034: "Call for Technical Proposals regarding IEEE Project P802.16j"	
Abstract	This contribution proposes procedures for MS CDMA-based BR with non-transparent RS	
Purpose	Text proposal for 802.16j Baseline Document	
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MS CDMA-based BR with Non-transparent RS

Introduction

This contribution describes MS CDMA-based bandwidth request (BR) with non-transparent RS under centralized scheduling scheme. In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the baseline working document IEEE 802.16j-06/026r1 are listed below.

Text Proposal

6.3.6 Bandwidth allocation and request mechanisms

6.3.6.8 Relaying support for Contention-based CDMA Bandwidth Requests

6.3.6.8.2 Contention-based CDMA Bandwidth Requests with non-transparent RS

The RS should support the CDMA-based mechanism as specified in the following paragraphs of this subclause.

After RS received a bandwidth request CDMA ranging code resulting in success status, it shall transmit RLY_RC-REP message to the serving MR-BS through the relay path. The RLY_RC-REP message is defined in xxx. When RS receives multiple CDMA ranging codes in the ranging subchannel of a frame, the RLY_RC-REP message sent by the RS to serving MR-BS may contain information of multiple received codes.

Upon receiving RLY_RC-REP with success status from a subordinate RS, the BS shall provide (an implementation dependent) uplink allocation for the SS by transmitting an RLY-BST to the RS, Afterward, the RS should construct CDMA allocation IE, which specifies the transmit region and Ranging Code that were used by the SS from received RLY-BST message and send it to the corresponding MS.

The message sequence charts (Table xxx) and flow charts (Figure xxx and Figure yyy) define the unsolicited RNG-RSP process that shall be followed by compliant RSs and MR-BSs.

Table xxx – RLY-BST message format

Syntax	Size	Notes
RLY-BST_Message_Format(){		
Management Message Type = xx	8 bits	
Encoded Information	variable	TBD
}		

Table xxx – RLY_RC-REP message format

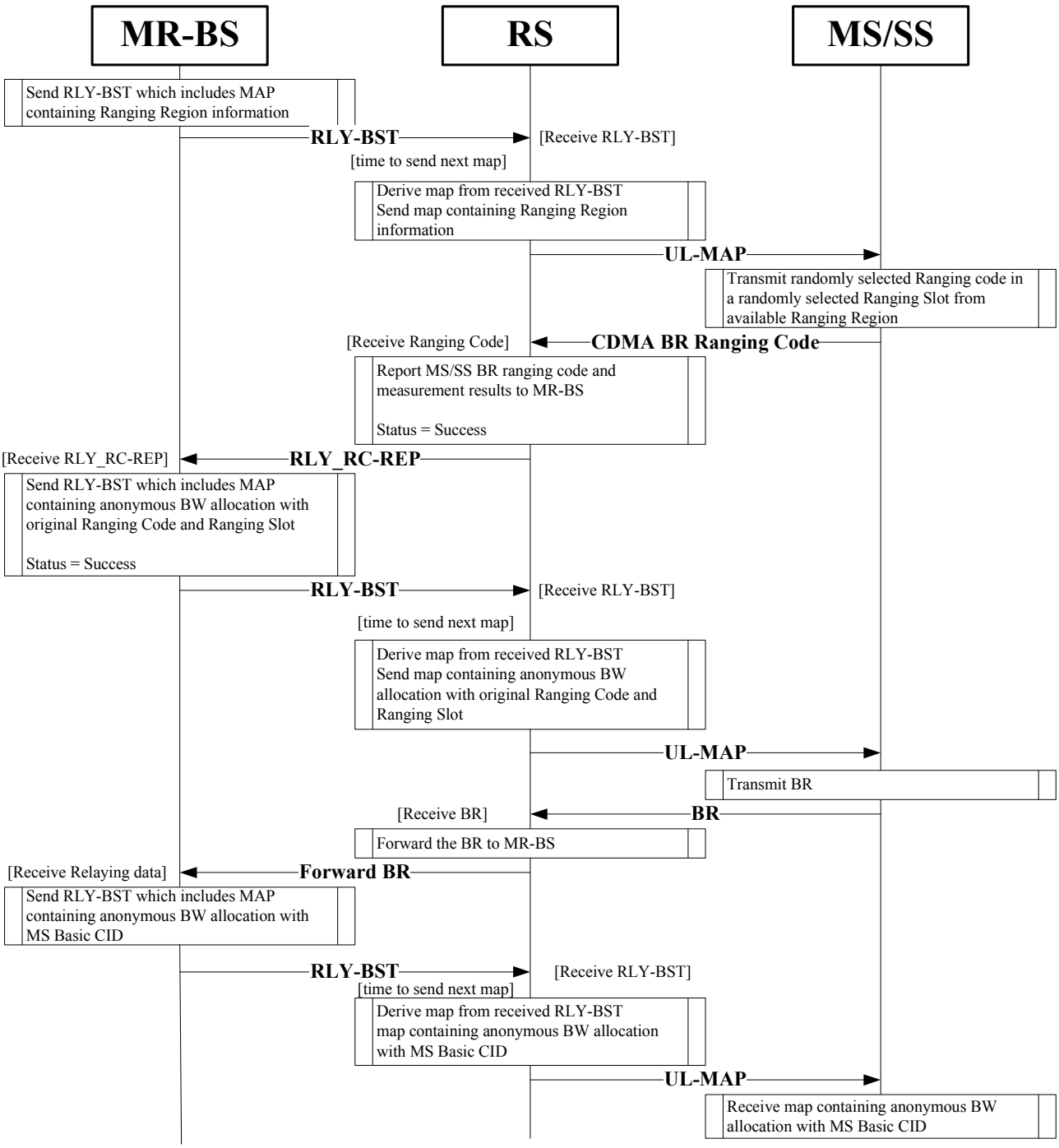
Syntax	Size	Notes
RLY_RC-REP_Message_Format(){		
Management Message Type = xx	8 bits	

TLV Encoded Information	variable	TLV specific
}		

Table xxx – RLY_RC-REP message encodings

	Type (1 byte)	Length	Value (Variable-length)	PHY Scope
Ranging Status	TBA	1	Used to indicate whether uplink messages are received within acceptable limits by RS. 1 = continue, 2 = abort, 3 = success	OFDMA
Received Ranging Code Attributes	TBA	4	Bits 31:22 – Used to indicate the OFDM time symbol reference that was used to transmit the ranging code. Bits 21:16 – Used to indicate the OFDMA subchannel reference that was used to transmit the ranging code. Bits 15:8 – Used to indicate the ranging code index that was sent by the MS. Bits 7:0 – The 8 least significant bits of the frame number of the OFDMA frame where the MS sent the ranging code.	OFDMA

Table xxx: MS CDMA Bandwidth Request procedure in non-transparent RS systems



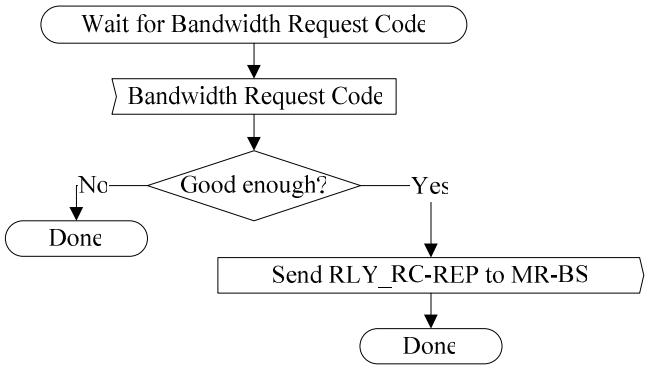


Figure xxx MS CDMA Bandwidth Request – Non-transparent Access RS (part 1)

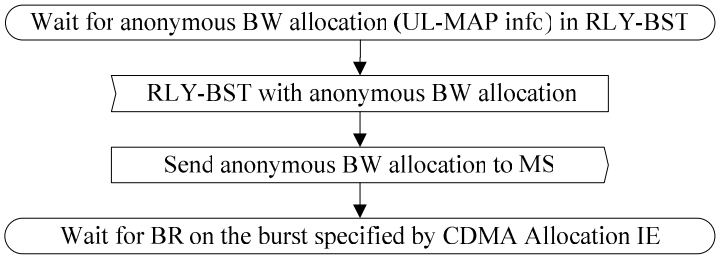


Figure xxx MS CDMA Bandwidth Request – Non-transparent Access RS (part 2)

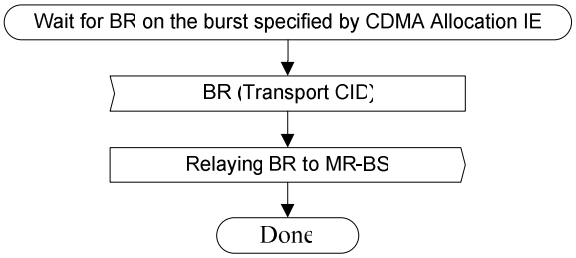


Figure xxx MS CDMA Bandwidth Request – Non-transparent Access RS (part 3)

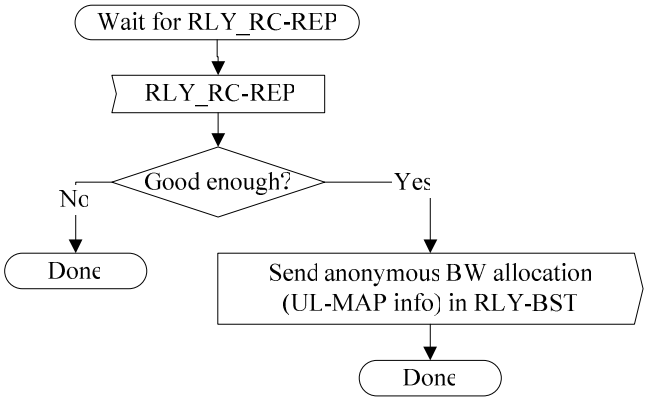


Figure yyy MS CDMA Bandwidth Request with Non-transparent RS – MR-BS