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Re:	IEEE 802.16j-07/007r2: “Call for Technical Comments and Contributions regarding IEEE Project 802.16j”	
Abstract	This contribution proposes procedures for unsolicited RNG-RSP in non-transparent RS under Centralized Scheduling	
Purpose	Text proposal for 802.16j Baseline Document	
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Unsolicited RNG-RSP in Non-transparent RS System under Centralized Scheduling

Introduction

This contribution describes MS unsolicited RNG-RSP in non-transparent RS system 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-06/026r2 are listed below.

Text Proposal

6.3.10 Ranging

6.3.10.3 OFDMA based ranging

6.3.10.3.4 Relaying support for OFDMA based ranging

6.3.10.3.4.4 Unsolicited RNG-RSP in non-transparent RS systems

6.3.10.3.4.4.1 Non-transparent RS with Centralized Scheduling

When the offsets of frequency, power, and timing for any data transmission from the MS are beyond the tolerance defined in this specification, RS shall transmit a RNG-REQ message with the RS basic CID containing the MS basic CID to the serving MR-BS through the relay path. The RNG-REQ message sent by the RS to serving MR-BS may contain information of multiple measured reports.

Upon receiving the RNG-REQ message from a subordinate RS, the MR-BS may send an unsolicited RNG-RSP message with this MS basic CID to the MS through the RS.

The message sequence charts (Table 364, Table uuu) and flow charts (Figure uuu and Figure vvv) define the unsolicited RNG-RSP process that shall be followed by compliant RSs and MR-BSs.

The RS should send an unsolicited RNG-RSP as a response to a CDMA-based bandwidth-request from MS, which results in continue status.

When RS receives the BR CDMA code resulting in continue status, RS shall locally send RNG-RSP to MS on the access link. In order to send RNG-RSP to MS on the access link, it sends a RS BR header to the MR-BS. Upon receipt of RS BR header at MR-BS, MR-BS will allocate resources for RNG-RSP and indicate to RS with RS_DL_MAP-IE in DL-MAP.

When the RS receives multiple codes in a frame resulting in continue status, the RS sends a RS BR header which contains information of number of received codes

The message sequence charts (Table 364, 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 uuu: Unsolicited RNG-RSP triggered by upstream traffic in non-transparent RS system

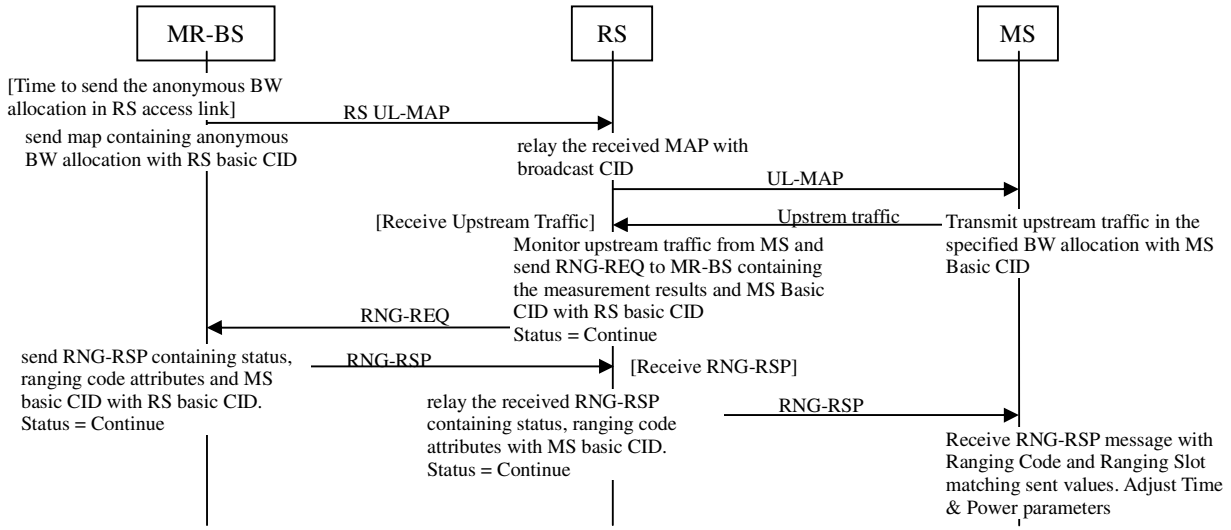
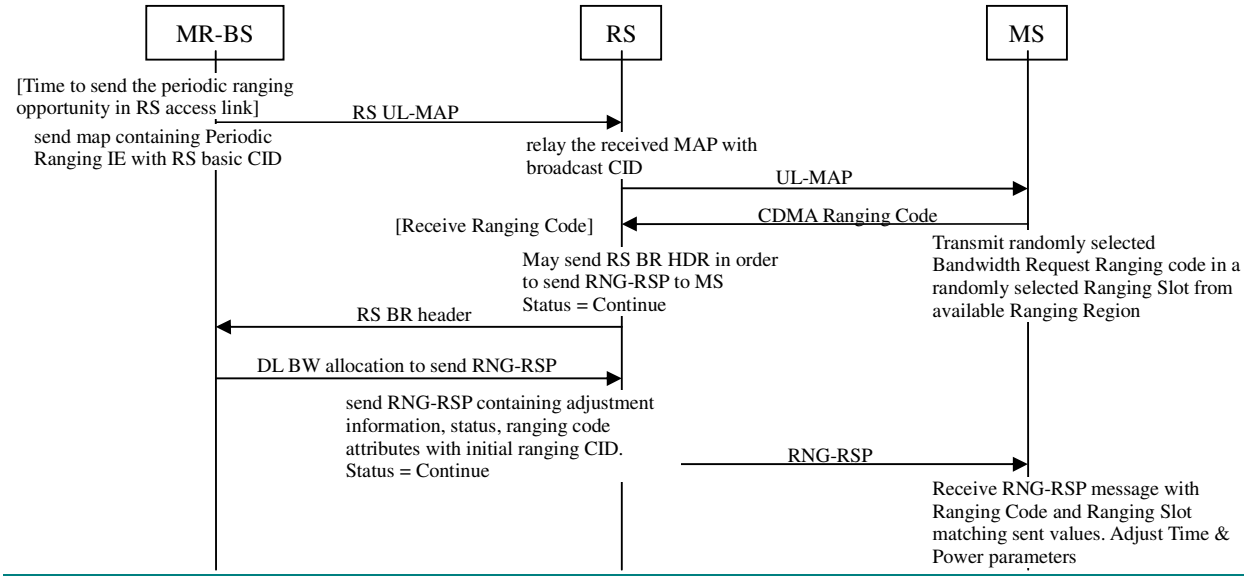


Table xxx: Unsolicited RNG-RSP triggered by BR ranging code in non-transparent RS system



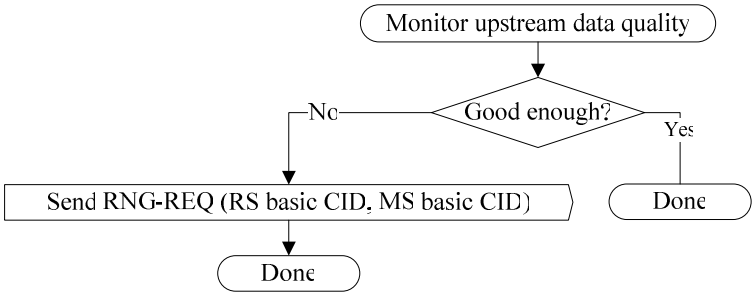


Figure uuu Unsolicited RNG-RSP triggered by upstream traffic in non-transparent RS system – Access non-transparent RS

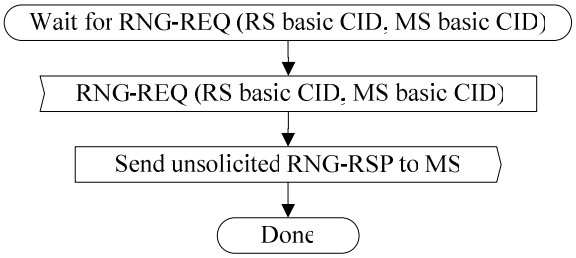


Figure vvv Unsolicited RNG-RSP triggered by BR ranging code in non-transparent RS system – MR-BS

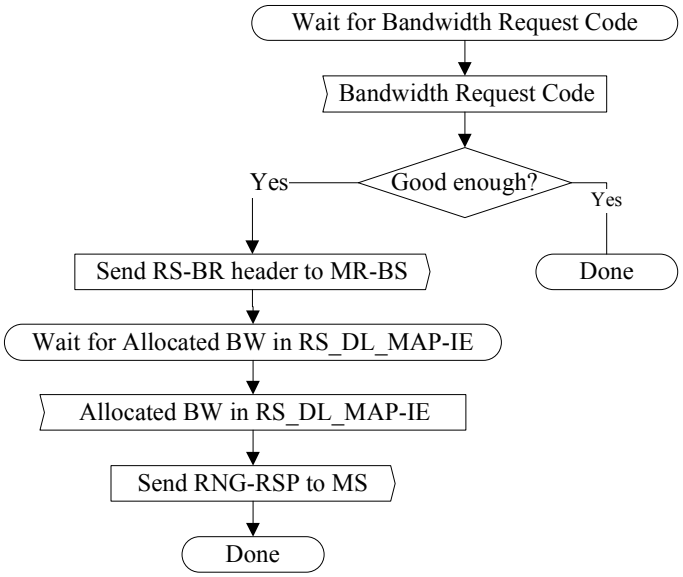


Figure xxx Unsolicited RNG-RSP triggered by BR ranging code in non-transparent RS system – Access non-transparent RS

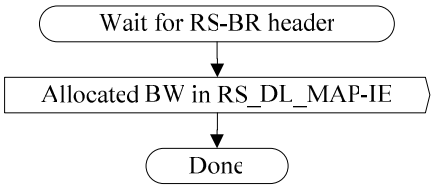


Figure yyy Unsolicited RNG-RSP triggered by BR ranging code in non-transparent RS system – MR-BS

6.3.10.3.4.4.2 Non-transparent RS with Distributed Scheduling

[This subclause is just a place holder. The contents are in a different contribution.]

Insert the following rows into Table 364 at 11.5 RNG-REQ TLV:

Table 364—RNG-REQ message encodings

Name	Type (1 byte)	Length	Value (variable-length)	PHY Scope
Received Ranging Codes	TBA	Variable	Received Ranging Codes is a compound TLV value that indicates received code information.	OFDMA
Timing Adjust	TBA.1	4	Tx timing offset adjustment (signed 32-bit). The amount of time required to adjust SS transmission so the bursts will arrive at the expected time instance at the BS. Units are PHY specific (see 10.3).	OFDMA
Power Level Adjust	TBA.2	1	Tx Power offset adjustment (signed 8-bit, 0.25 dB units) Specifies the relative change in transmission power level that the SS is to make in order that transmissions arrive at the BS at the desired power. When subchannelization is employed, the subscriber shall interpret the power offset adjustment as a required change to the transmitted power density.	OFDMA
Offset Frequency Adjust	TBA.3	4	Tx frequency offset adjustment (signed 32-bit, Hz units). Specifies the relative change in transmission frequency that the SS is to make in order to better match the BS. (This is fine-frequency adjustment within a channel, not reassignment to a different channel.)	OFDMA
Ranging Status	TBA.4	1	Used to indicate whether uplink messages are received within acceptable limits by BS. 1 = continue, 2 = abort, 3 = success	OFDMA
Ranging code attributes	TBA.5	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 SS. Bits 7:0 – The 8 least significant bits of the frame number of the OFDMA frame where the SS sent the ranging code.	OFDMA
MS Basic CID	TBA	2	MS Basic CID	OFDMA