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Re:	IEEE 802.16j-06/034: "Call for Technical Proposals regarding IEEE Project P802.16j"	
Abstract	This contribution proposes procedures for unsolicited RNG-RSP with non-transparent RS	
Purpose	Text proposal for 802.16j Baseline Document	
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Unsolicited RNG-RSP with Non-transparent RS

Introduction

This contribution describes MS unsolicited RNG-RSP 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

6.3.10 Ranging

6.3.10.3 OFDMA based ranging

6.3.10.3.4 Relaying support for OFDMA based ranging

6.3.10.3.4.6 Unsolicited RNG-RSP with Non-transparent RS

The RS should send an unsolicited RNG-RSP to MS as a response to a CDMA-based bandwidth-request from the MS, which results in continue status. The bandwidth allocated for the RS to send the RNG-RSP message could be centralized scheduling or de-centralized scheduling. The relaying support for scheduling is defined in 6.3.6.7.

When the offsets of frequency, power, and timing for any other 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 xxx, Table yyy and Table zzz) and flow charts (Figure xxx and Figure yyy) define the unsolicited RNG-RSP process that shall be followed by compliant RSs and MR-BSs.

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

Table 364—RNG-REQ message encodings

	Type (1 byte)	Length	Value (Variable-length)	PHY Scope
Received Ranging Codes	TBA	Variable	Received Ranging Code Attributes 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 MS transmission so the	OFDMA

			bursts will arrive at the expected time instance at the RS. Units are PHY specific (see 10.3). The MS shall advance its burst transmission time if the value is negative and delay its burst transmission if the value is positive.	
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 MS is to make in order that transmissions arrive at the RS 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 MS is to make in order to better match the RS. (This is fine-frequency adjustment within a channel, not reassignment to a different channel.). The MS shall increase its transmit frequency if the value is positive and decrease its transmit frequency if the value is negative.	OFDMA
Ranging Status	TBA.4	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.5	Variable	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.	OFDMA

			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.	
MS CINR mean	TBA.6	1	The MS CINR mean parameter indicates the CINR measured by the RS from the MS. The value shall be interpreted as a signed byte with units of (TBD) dB. The measurement shall be performed on the CDMA ranging signal sent by the MS and averaged over the measurement period.	OFDMA
MS RSSI mean	TBA.7	1	The MS RSSI mean parameter indicates the Received Signal Strength measured by the RS from the MS. The value shall be interpreted as an unsigned byte with units of (TBD) dB, such that 0x00 is interpreted as (TBD) dBm, an RS shall be able to report values in the range (TBD) dBm to (TBD) dBm. The measurement shall be performed on the CDMA ranging signal sent by the MS and averaged over the measurement period	OFDMA
MS Basic CID	TBA	2	MS Basic CID	OFDMA

Table yyy: Unsolicited RNG-RSP procedure triggered by CDMA BR ranging code in non-transparent RS systems

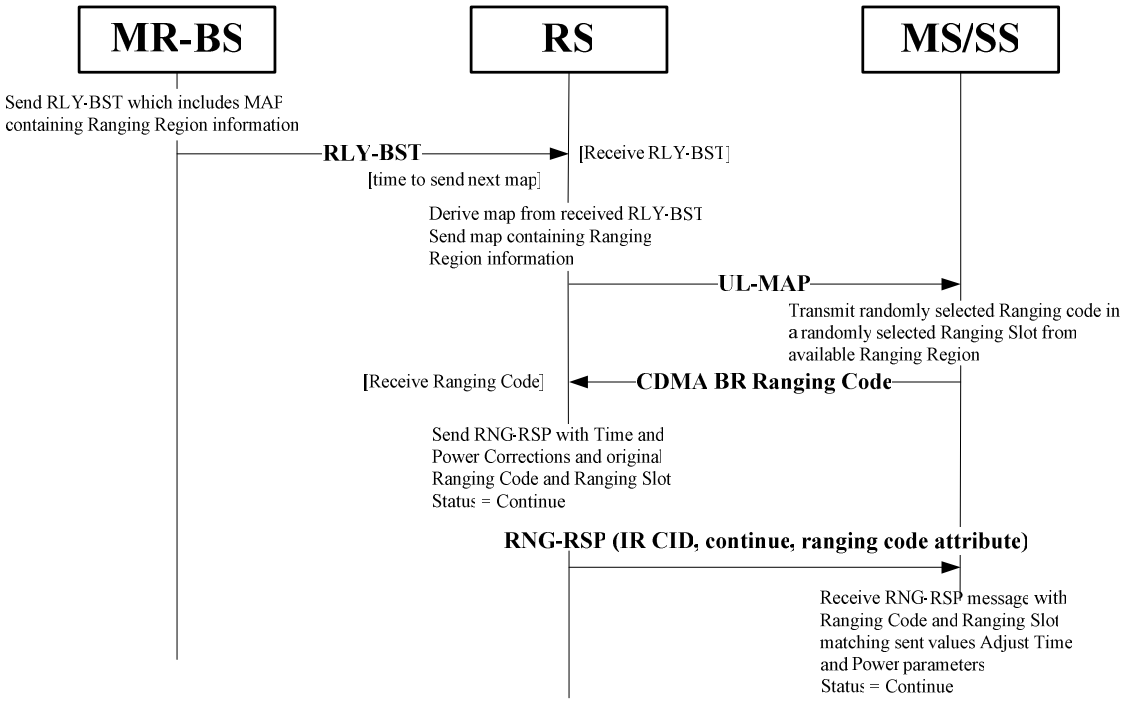
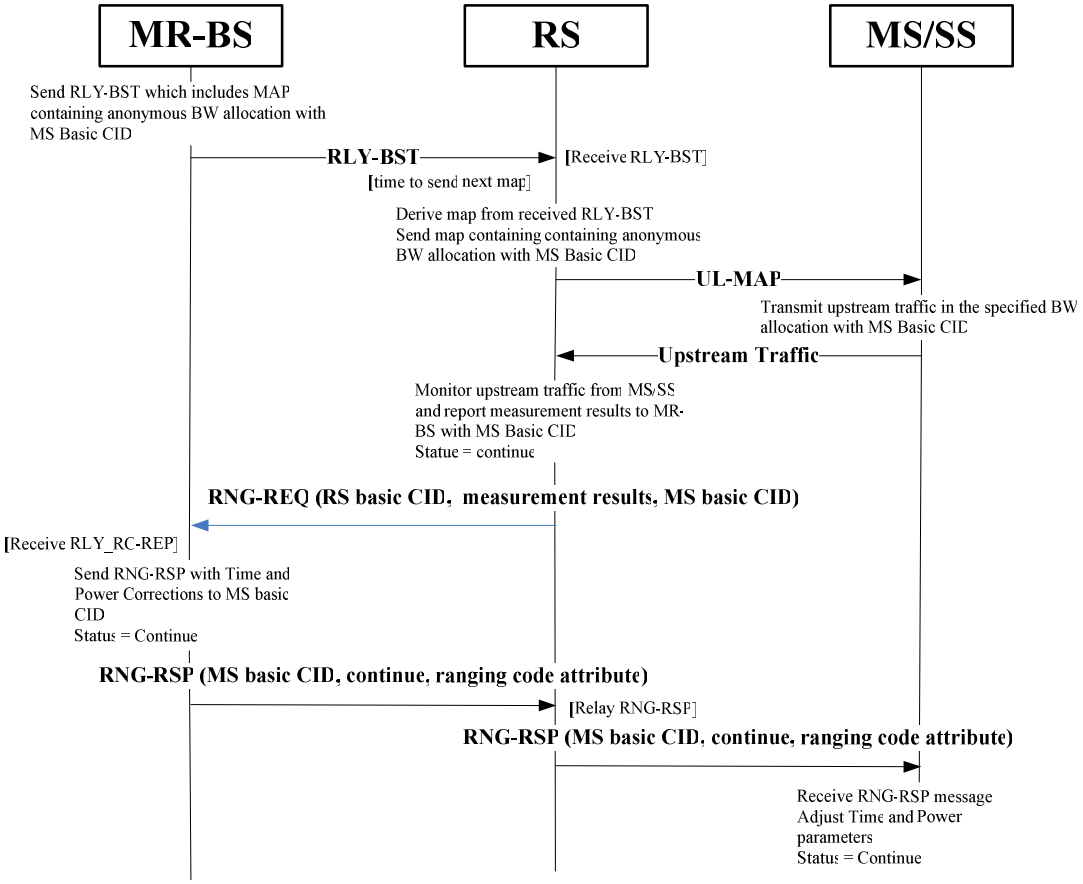


Table zzz: Unsolicited RNG-RSP triggered by upstream traffic in non-transparent RS systems



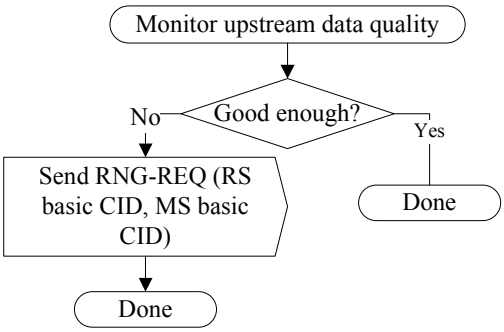


Figure xxx Unsolicited RNG-RSP – Non-transparent Access RS (part 1)

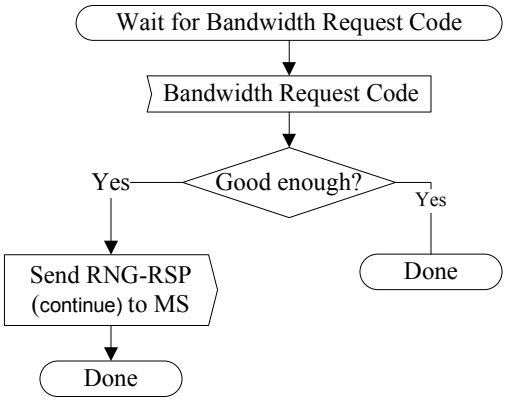


Figure xxx Unsolicited RNG-RSP – Non-transparent Access RS (part 2)

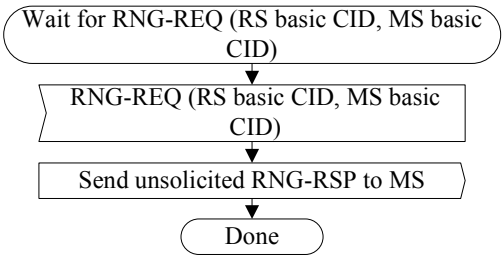


Figure yyy Unsolicited RNG-RSP with Non-transparent Access RS –MR-BS