Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Comments on MS ranging and network entry in non-transparent RS systems under distributed scheduling**
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Re:	IEEE 802.16j-07/043: "IEEE 802.16 Working Group Working Group Letter Ballot #28"
Abstract	This contribution proposes to correct and merge the paragraphs in subclauses 6.3.9.16.2.2, 6.3.10.3.4.2.2, 6.3.10.3.4.4.2, and 6.3.10.3.4.5.
Purpose	Text proposal for 802.16j Draft Document.
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Patent Policy	The contributor is familiar with the IEEE-SA Patent Policy and Procedures: <http://standards.ieee.org/guides/bylaws/sect6-7.html#6> and <http://standards.ieee.org/guides/opman/sect6.html#6.3>. Further information is located at <http://standards.ieee.org/board/pat/pat-material.html> and <http://standards.ieee.org/board/pat>.

Comments on MS ranging and network entry in non-transparent RS systems under distributed scheduling

Introduction

We propose to move subclauses 6.3.9.16.2.2, 6.3.10.3.4.2.2, 6.3.10.3.4.4.2, and 6.3.10.3.4.5 and move these subclauses to a new subclause 6.3.10.3.6 in 6.3.10.3 “OFDMA-based ranging”, which is consistent with how the MS CDMA ranging and OFDMA-based network entry procedure have been described in IEEE 802.16e-2005 (see 6.3.10.3.1 “Contention-based initial ranging and automatic adjustments”, 6.3.10.3.2 “Periodic ranging and automatic adjustments” and 6.3.10.3.3 “CDMA HO ranging and automatic adjustment” for detail).

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

Text Proposal

[Insert the following subclause 6.3.10.3.8 in line 16 of page 122 as indicated:]

6.3.10.3.8 MS contention-based ranging and automatic adjustments with non-transparent RS under distributed scheduling

[Change the following subclause in line 38 of page 98 as indicated]

~~6.3.9.16.2.2 Non-transparent RS with Distributed scheduling~~ 6.3.10.3.8.1 MS initial ranging and network entry procedures

In MS initial ranging and network entry procedures to non-transparent RS systems, MS scans for downlink channel and establish synchronization with the non-transparent RS, then obtains transmit parameters from UCD message as described in 6.3.9.1 through 6.3.9.4.

The initial ranging process shall begin by sending an initial-ranging CDMA codes on the UL allocation dedicated for that purpose (for more details see 6.3.10.3). RS and MS continue CDMA code transmission and reception as defined in 6.3.10.3 until RS receives the CDMA code successfully unless the MS receives abort status in RNG-RSP or the retry count exceeds the maximum number

When the RS receives the initial-ranging CDMA code ~~resulting in success status~~ that requires no corrections, it ~~sends a RNG-RSP containing success status to the MS. And the RS~~ shall ~~also~~ provide~~s~~ bandwidth allocation to the MS with CDMA_Allocation-IE in UL-MAP, so that the MS can send a RNG-REQ containing MS MAC Address with ~~initial~~ ranging CID. Sending the RNG-RSP message with status “Success” is optional.

[Replace Figure 95i as following indicated:]

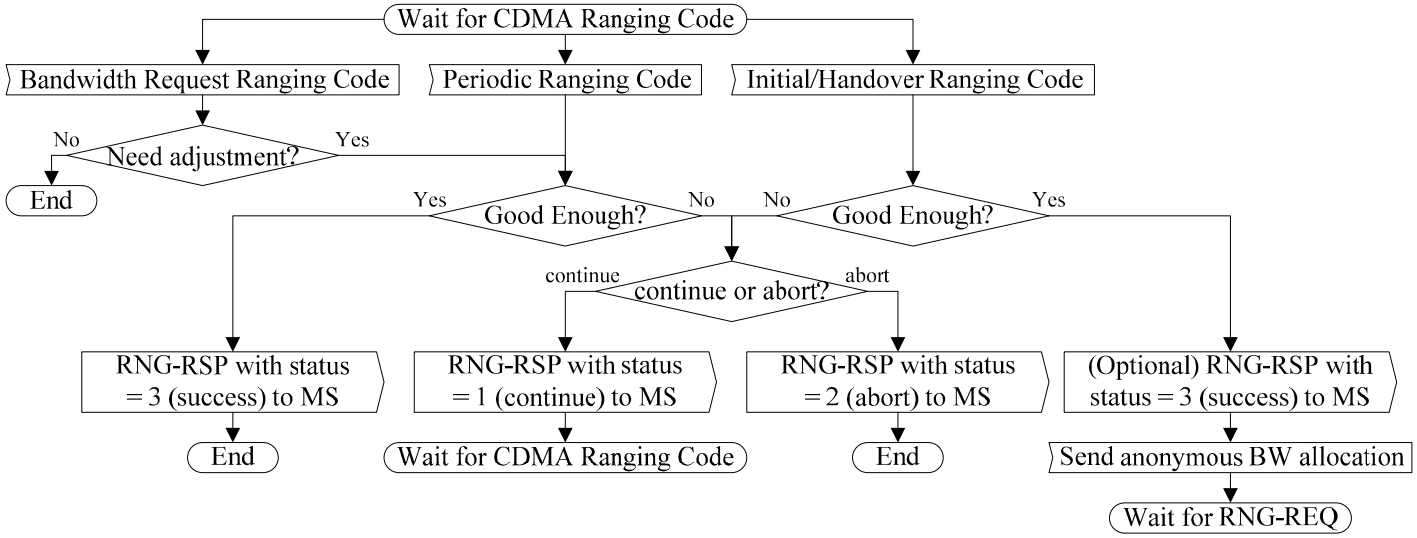

Figure 95i Handling CDMA ~~Initial~~ Ranging Code at ~~Non~~non-transparent RS

[Modified the following subclause 6.3.10.3.4.2.2 in line 3 of page 113 as indicated:]

~~6.3.10.3.4.2.2 Non-transparent RS with Distributed Scheduling~~ 6.3.10.3.8.2 MS periodic ranging and automatic adjustments

When an RS receives the ~~CDMA~~ periodic ranging code, the RS shall locally ~~send~~ broadcast RNG-RSP message ~~to MS~~ on the access link. The message sequence chart in Table 201c and flow chart in Figure ~~108e~~ 95i define the periodic ranging and adjustment process that shall be followed by compliant RSs and MR-BSs.

[Modified Table 201c as indicated]

Table 201c—Ranging and automatic adjustment procedure in non-transparent ~~RS systems~~ mode under distributed scheduling

[Modified the following subclause 6.3.10.3.4.4.2 in line 32 of page 119 as indicated:]

~~6.3.10.3.4.4.2 Non-transparent RS with Distributed Scheduling~~ 6.3.10.3.8.2 MS bandwidth request ranging and unsolicited RNG-RSP

~~The message sequence charts in Table 201h and 201i and flow charts in Figures 108l and 108m define the unsolicited RNG-RSP process that shall be followed by compliant RSs and MR-BSs.~~ The RS ~~should~~ shall locally ~~send~~ broadcast an unsolicited RNG-RSP as a response to ~~a CDMA-based~~ MS bandwidth-request ranging ~~from MS~~, which ~~results in continue status~~ requires correction. ~~When RS receives the BR-CDMA ranging code resulting in continue status, RS shall locally send RNG-RSP to MS on the access link.~~

The message sequence charts in Table 201h and 201i and flow charts in Figures 108l and 95i define the unsolicited RNG-RSP process that shall be followed by compliant RSs and MR-BSs.

[Insert the following subclause based on the paragraph in 6.3.10.3.4.5 as following indicated:]

6.3.10.3.7.4 MS handover ranging and automatic adjustments

An RS that supports MS handover ranging shall take a process similar to that defined in that defined in the initial ranging and network entry procedures section with the following modifications.

In CDMA handover ranging process, the random selection is used instead of random back-off and the CDMA handover ranging code is used instead of the initial ranging code. The code is selected from the handover-ranging domain as defined in 8.4.7.3.

Alternatively, if the RS is pre-notified by the serving MR-BS for the upcoming handover MS, it may provide bandwidth allocation information to the MS using Fast Ranging IE to send an RNG-REQ message.