<table>
<thead>
<tr>
<th>Project</th>
<th>IEEE 802.16 Broadband Wireless Access Working Group <a href="http://ieee802.org/16">http://ieee802.org/16</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Comments on MS ranging and network entry in non-transparent RS systems under distributed scheduling</td>
</tr>
<tr>
<td>Date Submitted</td>
<td>2007-09-06</td>
</tr>
<tr>
<td>Source(s)</td>
<td>Kanchei (Ken) Loa, Yi-Hsueh Tsai, Yung-Ting Lee, Hua-Chiang Yin, Shiann-Tsong Sheu, Youn-Tai Lee, Institute for Information Industry 8F, No. 218, Sec. 2, Dunhua S. Rd., Taipei City 106, Taiwan</td>
</tr>
<tr>
<td>Voice:</td>
<td>+886-2-27399616</td>
</tr>
<tr>
<td>Fax:</td>
<td>+886-2-23782328</td>
</tr>
<tr>
<td><a href="mailto:loa@iii.org.tw">loa@iii.org.tw</a></td>
<td></td>
</tr>
</tbody>
</table>

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. |

Notice: This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups. It represents only the views of the participants listed in the “Source(s)” field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein.

Release: The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE’s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE’s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.


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 also provides 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-transparent RS
6.3.10.3.4.2.2 Non-transparent RS with Distributed Scheduling

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.

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

6.3.10.3.4.4.2 Non-transparent RS with Distributed Scheduling

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 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.

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.