

|                |  |  |
|----------------|--|--|
| Project        | <b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >   |  |
| Title          | <b>Comments on MR-BS and RSs behavior during association procedure</b>   |  |
| Date Submitted | <b>2008-03-13</b>  |  |
| Source(s)      | Kanchei (Ken) Loa, Yi-Hsueh Tsai,<br>Yung-Ting Lee, Hua-Chiang Yin,<br>Shiann-Tsong Sheu, Youn-Tai Lee   | Voice: +886-2-66000100<br>Fax: +886-2-66061007<br><a href="mailto:loa@iii.org.tw">loa@iii.org.tw</a> |
|                | Institute for Information Industry<br>7F, No. 133, Sec. 4, Minsheng E. Rd.,<br>Taipei City 105, Taiwan   |  |
| Re:            | IEEE 802.16-08/007: "IEEE 802.16 Working Group Letter Ballot Recirc #28b: Announcement"  |  |
| Abstract       | This contribution proposes modification on association procedure   |  |
| Purpose        | Text proposal for 802.16j Draft Document.  |  |
| Notice         | <i>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.</i>   |  |
| 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.   |  |
| Patent Policy  | The contributor is familiar with the IEEE-SA Patent Policy and Procedures:<br>< <a href="http://standards.ieee.org/guides/bylaws/sect6-7.html#6">http://standards.ieee.org/guides/bylaws/sect6-7.html#6</a> > and<br>< <a href="http://standards.ieee.org/guides/opman/sect6.html#6.3">http://standards.ieee.org/guides/opman/sect6.html#6.3</a> >.<br>Further information is located at < <a href="http://standards.ieee.org/board/pat/pat-material.html">http://standards.ieee.org/board/pat/pat-material.html</a> > and<br>< <a href="http://standards.ieee.org/board/pat">http://standards.ieee.org/board/pat</a> >. |  |

## Comments on MR-BS and RSs behavior during association procedure

Kanchei (Ken) Loa, Yi-Hsueh Tsai, Yung-Ting Lee, Hua-Chiang Yin, Shiann-Tsong Sheu, Youn-Tai Lee

Institute for Information Industry (III)

### Introduction

In current standard, the MR-BS and RSs behavior during association procedure only apply to non-transparent RS with unique BSID. For the transparent RS and non-transparent RS has shared BSID, they only need to perform the same tasks as contention-based initial ranging described in 6.3.10.3.1.1. In addition, the MR\_Code-REP message is more efficient than RNG-RSP message to report ranging code attributes and adjustments information. So we propose to replace RNG-RSP message by MR\_Code-REP message such that both transparent and non-transparent RS utilize the same message in the association procedure.

In order to facilitate the incorporation of this proposal into IEEE 802.16j standard, specific changes to the draft standard P802.16j/D3 are listed below.

### Spec changes

#### 6.3.22.1.3.4 MR-BS and RSs behavior during association procedure

*[Modified the following text in line xxx of page xxx]*

In a MR system ~~under~~ with non-transparent RSs with unique BSID operating in centralized scheduling mode, when the serving MR-BS decides to recommend that the MS to scan neighbor stations with association level 2, the MR-BS shall notify the neighbor stations the association parameters (i.e., Rendezvous time, unique CDMA code, Transmission opportunity offset, UL CINR) after sending the MOB\_SCN-RSP message.

- If the neighbor station is the serving MR-BS itself, it has already owned the association parameters.
- If the neighbor station is a RS inside the MR-cell the MS attached to, the serving MR-BS shall notify the neighbor station via a MR\_ASC-RSP message.
- If the neighbor station is outside the MR-cell the MS attached to, the serving MR-BS shall notify the neighbor MR-BS via the network backbone. If the neighbor station is a RS, the neighbor MR-BS shall then notify the neighbor station via a MR\_ASC-RSP message.

In a MR system with non-transparent RSs with unique BSID operating in distributed scheduling mode, when the serving MR-BS decides to recommend that the MS scan neighbor stations with association level 1 or 2, it should obtain association parameters available from the neighbor stations before sending the MOB\_SCN-RSP message.

- If a neighbor station is in different MR-cells from the MS, the MS's serving MR-BS shall forward a message via the network backbone to the neighbor station's serving MR-BS requesting the neighbor station's association parameters.
- If the neighbor station is an MR-BS, the association parameters are readily available. However, if the neighbor station is an RS, its serving MR-BS must forward an MR\_ASC-REQ message to the RS requesting that it forward its association parameters via an MR\_ASC-RSP message.
- If a neighbor station is an RS in the same cell as the MS, the serving MR-BS shall request the association

parameters directly from the RSs via an MR\_ASC-REQ message.

- When an RS receives an MR\_ASC-REQ message from its serving MR-BS, it shall respond with an association response (MR\_ASC-RSP) message to indicate the association level allocated to the MS. If the allocated association level is 1 or 2, the MR\_ASC-RSP should include the association parameters (i.e. Rendezvous time, CDMA code, and Transmission opportunity offset).
- Upon receiving these association parameters, the serving MR-BS shall determine whether the association parameters satisfy the MS' association requirements or not. If they do, the serving MR-BS shall include those association parameters in the MOB\_SCN-RSP message.

For MS neighbor scanning with association level 0 and 1, the access station shall perform the same tasks as contention-based initial ranging described in 6.3.10.3.1.1.

For MS neighbor scanning with association level 2, the transparent RS and non-transparent RS has shared BSID shall perform the same tasks as contention-based initial ranging described in 6.3.10.3.1.1; instead of sending a RNG-RSP message to the MS, the neighbor non-transparent RS with unique BSID shall send a ~~RNG-RSP~~ MR Code-REP message to the MR-BS containing corresponding ranging information to the MR-BS.