Project	**IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>**
Title	**Obtaining R-link Parameters during RS Network Entry**
Date Submitted	**2007-11-11**
Source(s)	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 [add other co-authors here] Voice: +886-2-27399616 Fax: +886-2-23782328 loa@iii.org.tw
Re:	IEEE 802.16j-07/043: "IEEE 802.16 Working Group Working Group Letter Ballot #28"
Abstract	This contribution proposes a scheme to obtain R-link parameters during RS network entry
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.
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>.

Obtaining R-link Parameters during RS Network Entry

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 P802.16j/D1, although it is understood that MR-BS sends RCD (RS-CD) message to the RS performing the network entry, it needs to be mentioned the precise procedures have not been clearly defined for "Obtaining R-link Parameters" during RS network entry in the access zone for transparent MR system and in the relay zone for non-transparent MR system. Therefore, we propose this contribution to support procedure to obtain R-link parameters" for the RS during RS network entry.

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

Specification Changes

6.3.9 Network entry and initialization

The procedure can be divided into the following phases:

f) Perform registration

f1) Obtaining R-link parameters (RS only)

6.3.9.9 Registration

6.3.9.9.2 MR-BS and RS behavior during registration

[Insert the following subclause as indicated:]

6.3.9.9.3 Obtaining R-link parameters

After registration, the transparent RS received the R-MAP message and then the RCD message in the access zone from the access station in order to obtaining R-link parameters (see Figure yyy),

After registration, the non-transparent RS shall obtain the location of the relay zone containing the R-FCH through "Relay zone indicator (DIUC = 13)" in the DL-MAP message in the access zone. Afterward, the RS shall decode the R-FCH and then the R-MAP message within the relay zone. In order to obtaining R-link parameters, the RS shall first search for the R-MAP messages. Once the RS has received at least one R-MAP message and is able to decode the burst in R-link successfully, the RS will achieve R-link MAC synchronization. An RS MAC remains in synchronization as long as it continues to successfully receive the R-MAP for its channel. If the Lost R-MAP Interval has elapsed without a valid R-MAP message, an RS shall try to establish synchronization with another access station. The process of acquiring synchronization and maintaining synchronization are illustrated in Figure xxx. Afterward, RS should search for the RCD message broadcasted from the access station (see Figure yyy).

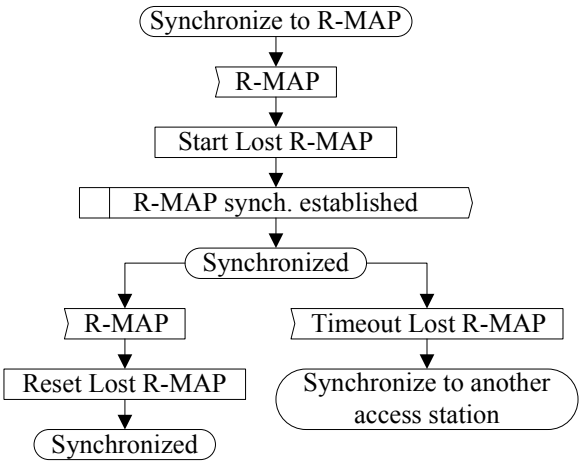

Figure xxx—Obtaining and maintaining synchronization with R-MAP at a RS

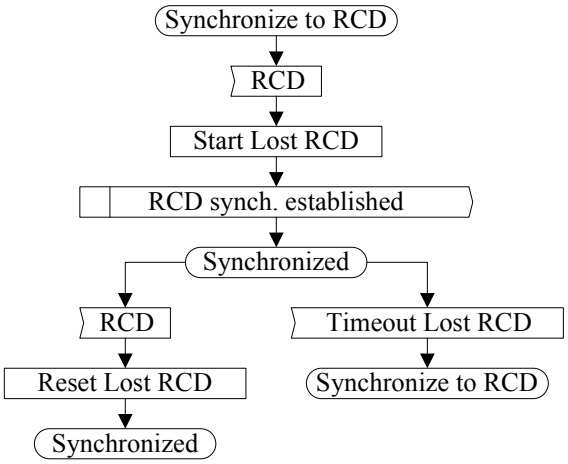

Figure yyy—Obtaining RCD message at a RS