Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	Introduction of RS ID
Date Submitted	**2007-01-08**
Source(s)	Hang Zhang, Peiying Zhu, Mo-Han Fong, Wen Tong, David Steer, Gamini Senarath, Derek Yu, Mark Naden, G.Q. Wang Nortel 3500 Carling Avenue Ottawa, Ontario K2H 8E9 Voice: +1 613 7631315 [mailto:wentong@nortel.com] [mailto:pyzhu@nortel.com]
Re:	A response to a Call for Technical Proposal, http://wirelessman.org/relay/docs/80216j-06_034.pdf
Abstract	A RS, after the initial network entry, shall be named for various control and data forwarding purpose. In this contribution, we suggest to introduce identification of RS.
Purpose	To incorporate the proposed text into the P802.16j Baseline Document (IEEE 802.16j-06/026r1)
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) 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 and Procedures	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures <http://ieee802.org/16/ipr/patents/policy.html>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair <mailto:chair@wirelessman.org> as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/notices>.

Introduction of RS ID

Hang Zhang, Peiying Zhu, Mo-Han Fong, Wen Tong, David Steer, Gamini Senarath, Derek Yu, Mark Naden, G.Q. Wang

Nortel

1. Introduction

A RS, after the initial network entry, shall be named for various control and data forwarding purpose. In this contribution, we suggest to introduce identification of RS.

2. Proposal

2.1 Addressing scheme

A relay station can be identified by following identities:

- MAC address (48 bits): assigned by manufacturer to universally identify a relay station
- BSID (48 bits): used for a serving RS to declare its identity as a base station to MS
- Basic CID (16 bits) used for identify a RS at initial RS network entry

In addition to above, we suggest introduce RSID

- RSID (8 bits): Identity of a relay station assigned by a MMR-BS at RS network entry/reentry.
    - RSID is used to uniquely identify a relay station within a MMR-BS cell
    - RSID is used for variety of data forwarding routing control functions
    - RSID is used for resource allocation of RS

The benefits of introducing this short identity to RS include:

- provide low-overhead method for identifing a relay station within a cell compared with other identities
- reduce storage space for various routing table within MMR-BS and RSs

RSID can be a unicast or multicast or broadcast identity

- Unicast RSID is uniquely assigned to a RS by its associated MMR-BS.
- Multicast RSID is assigned to a group of RSs assigned by MMR-BS. One example of usage of a multicast RSID is that all child RSs of MMR-BS or a parent RS are assigned a multicast RSID. This RSID can be used for a parent station (MMR-BS or RS) to send control message governing the operation of all of its child RSs.

- Broadcast RSID is used by MMR-BS to send control information to all of associated RSs. One specific RSID (e.g., 0b00000000) can be reserved for this broadcast RSID.

3 Proposed text modification

++++++++++++++ Start Text ++

[Insert the following section 6.3.1.2]

6.3.1.2 Relay network

6.3.1.2.1 RSID (8 bits)

Unicast RSID is a unique identity of a RS within a MMR cell. RSID shall be be assigned by its serving MMR-BS to a RS at RS initial network entry and re-entry. This RSID may shall be used as an identity for resource assignment of RS and used for routing control.

Multicast RSID may be assigned to a group of RSs by their serving MMR-BS. One example of usage of a multicast RSID is that all child RSs of MMR-BS or a parent RS are assigned a multicast RSID. This RSID can be used for a parent station (MMRBS or RS) to send control message governing the operation of all of its child RSs.

Broadcast RSID may be used by MMR-BS to send control information to all of associated RSs. .RSID 0b00000000 shall be reserved for broadcast RSID.

[Insert section 10.5]

10.5 Well-know address and identifiers of relay network

The RSIDs defined in Table XXX have specific meaning. These identitifiers shall not be used for any other purposes.

Table XXX RSID

RSID	Value	Description
Broadcast RSID	0x 00	Used by MMR-BS for broadcast information that is transmitted to all associated RSs
Unicast RSID	0x01-0xC9	Assigned to a RS by MMR-BS and used to uniquely indentify a RS associated with a MMR-BS (space = 200)
Multicast RSID	0xCA-0xFF	Used as identifier for a group of RSs

++++++++++++++ End Text ++