Project	IEEE 802.16 Broadband Wireless Access Working Group < <u>http://ieee802.org/16</u> >	
Title	Primitives for Neighbor BS Management	
Date Submitted	2005-07-11	
Source(s)	Jaesun Cha and Chulsik Yoon	jscha@etri.re.kr
	ETRI 161, Gajeong-dong, Yuseong-Gu,	<u>csyoon@etri.re.kr</u>
Rei	Daejeon, 305-350, Korea Contribution on comments to IEEE 802.16g-04/03r3	
Abstract	In this contribution, we propose to define some primitives for	Neighbor BS Management.
Purpose	Adoption	
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 text 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 (Version 1.0) < <u>http://ieee802.org/16/ipr/patents/policy.html</u> >, including the statement "IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing the standard."	
	Early disclosure to the Working Group of patent information that essential to reduce the possibility for delays in the development process ar draft publication will be approved for publication. Please notify the Chair early as possible, in written or electronic form, of any patents (granted or t technology that is under consideration by or has been approved by IEEE 8 notification via the IEEE 802.16 web site < <u>http://ieee802.org/16/ipr/patent</u>	might be relevant to the standard is ad increase the likelihood that the < <u>mailto:r.b.marks@ieee.org</u> > as under application) that may cover 302.16. The Chair will disclose this <u>ts/notices</u> >.

# Primitives for Neighbor BS Management

Jaesun Cha and Chulsik Yoon

#### ETRI

### 1. Introduction

According to the current 16e draft, BS shall broadcast information about the network topology and channel information for neighbor BSs using the MOB\_NBR-ADV message. Because the BS doesn't have any information for making MOB\_NBR-ADV message when it powers on, it shall acquire such information from NCMS.

In addition, whenever any parameter of UCD and DCD is changed, the BS shall inform its neighbor BSs of such changes so that MSs which are currently registered to any neighbor BSs can keep the same UCD/DCD information for the potential HO.

## 2. Summary of the Proposed Remedy

In this contribution, we define 4 primitives for managing neighbor BS list, which are described briefly in the following table.

Primitive	Direction	Primitive Contents
NBR_BS_Update.request	NCMS -> BS	Number of neighbor BSs, list of
		neighbor BS information
NBR_BS_Update.response	BS -> NCMS	Result
NBR_BS_Update.indication	BS -> NCMS	DCD configuration change count, UCD
		configuration change count, DCD
		parameters, UCD parameters
NBR_BS_Update.confirmation	NCMS -> BS	Result

NBR\_BS\_Update.request/response primitives are used when BS starts up or the mobility management entity recognizes some changes in neighbor BSs. The BS adopts the information in NBR\_BS\_Update.request primitive into subsequent MOB\_NBR-ADV messages.

NBR\_BS\_Update.indication/confirmation primitives are used when uplink or downlink parameters are changed by the operator or other management entity in NCMS

## 3. Proposed Text Changes

[Modify section 14.5.9.1.2 as follow]

#### 14.5.9.1.2 Neighbor List Management 14.5.9.1.2.1 Primitives for managing Neighbor BSs List

#### 14.5.9.1.2.1.1 NBR\_BS\_Update.request

14.5.9.1.2.1.1.1 Function

This primitive is issued by a mobility management entity in NCMS neighbor BS list and channel information for those neighbor BSs.

to inform BS of

14.5.9.1.2.1.1.2 Semantics of the service primitive The parameters of the primitive are as follow:

NBR\_BS\_Update.request ( Number of neighbor BSs, List of neighbor BS information ) Number of neighbor BSs

The number of the current active neighbor BSs

List of neighbor BS information

This parameter includes channel information for neighbor BSs. BS ID and UCD/DCD parameters per each neighbor BS may be included in this parameter

#### 14.5.9.1.2.1.1.3 When generated

This primitive is generated when the mobility management entity in NCMS recognizes that initialization of BS is completed or there are some changes in neighbor BS list or in channel information of one of neighbor BSs.

14.5.9.1.2.1.1.4 Effect of receipt

A BS receiving NBR\_BS\_Update.request shall update internal information about neighbor BSs and adopt the information into subsequent MOB\_NBR-ADV messages. The BS also shall response to this primitive by sending NBR\_BS\_update.response.

#### 14.5.9.1.2.1.2 NBR\_BS\_Update.response

14.5.9.1.2.1.2.1 Function This primitive is issued by BS to response to NBR\_BS\_Update.request.

14.5.9.1.2.1.2.2 Semantics of the service primitive

The parameters of the primitive are as follow:

NBR\_BS\_Update.response ( Result )

14.5.9.1.2.1.2.3 When generated This primitive is generated when BS receives NBR\_BS\_Update.request.

14.5.9.1.2.1.2.4 Effect of receipt

The mobility management entity in NCMS shall inform the neighbor BS of the updating result.

#### 14.5.9.1.2.1.3 NBR\_BS\_Update.indication

```
14.5.9.1.2.1.3.1 Function
```

This primitive is issued by BS to inform the mobility management entity in NCMS of changes in UCD and DCD.

14.5.9.1.2.1.3.2 Semantics of the service primitive The parameters of the primitive are as follow: NBR\_BS\_Update.indication ( DCD configuration change count, UCD configuration change count, DCD parameters, UCD parameters )

14.5.9.1.2.1.3.3 When generated

This primitive is generated when one or more parameters in DCD and UCD are changed to inform mobility management entity of such changes.

14.5.9.1.2.1.3.4 Effect of receipt

If mobility management entity in NCMS receives this primitive, it shall inform neighbor BSs of those changes.

#### 14.5.9.1.2.1.4 NBR\_BS\_Update.confirmation

14.5.9.1.2.1.4.1 Function

This primitive is issued by mobility management entity in NCMS to respond to NBR\_BS\_Update.indication.

14.5.9.1.2.1.4.2 Semantics of the service primitive

The parameters of the primitive are as follow: NBR BS Update.confirmation

> ( Result

14.5.9.1.2.1.4.3 When generated

This primitive is generated when mobility management entity receives NBR\_BS\_Update.indication.

14.5.9.1.2.1.4.4 Effect of receipt

If the value of result field in NBR\_BS\_Update.confirmation is not success, then BS shall retransmit NBR\_BS\_Update.indication within pre-defined number of times.