
Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Additional HO Control Primitives	
Date Submitted	2005-07-11	
Source(s)	Jaesun Cha and Chulsik Yoon	jscha@etri.re.kr
	ETRI	csyoon@etri.re.kr
	161, Gajeong-dong, Yuseong-Gu,	
	Daejeon, 305-350, Korea	
Re:	Contribution on comments to IEEE 802.16g-04/03r3	
Abstract	In this contribution, we propose to define HO primitives related with Scanning Procedure.	
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	<p>The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures (Version 1.0) <http://ieee802.org/16/ipr/patents/policy.html>, 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."</p> <p>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:r.b.marks@ieee.org> as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/notices>.</p>	

Additional HO Control Primitives

Jaesun Cha and Chulsik Yoon

ETRI

1. Introduction

In the current baseline document, 7 primitives are defined for managing HO procedure. However, those primitives don't consider scanning procedure.

For BS-initiated HO, the mobility management entity in NCMS shall know which MS is at the cell edge now and which BS is appropriate for the target BS of the selected MS. Therefore, the mobility management entity shall be able to request serving BS to report the downlink signal measurement of some MSs and their scanning information.

2. Summary of the Proposed Remedy

In this contribution, we define 2 primitives for gathering information about signal quality.

Primitive	Direction	Primitive Contents
scanning.request	BS <- NCMS	Number of MS, List of MS ID
scanning.response	BS -> NCMS	Number of MS, List of MS ID, List of Signal information

Whenever BS-initiated HO is needed because of loading problem, the mobility management entity sends the serving BS scanning.request primitive. If the serving BS receives scanning.request primitive, it shall response using scanning.response primitive. scanning.response primitive includes downlink channel quality of the requested MSs and their neighbor BSs.

3. Proposed Text Changes

[Add the following section at the end of section 14.5.9.7.1.7]

14.5.9.1.7.1.8 scanning.Request

14.5.9.1.7.1.8.1 Function

This primitive is issued by the mobility management entity in NCMS to request radio signal information of MSs.

14.5.9.1.7.1.8.2 Semantics of the service primitive

The parameters of the primitive are as follow:

```
scanning.request
(
  Number of MS,
  List of MS ID
)
```

Number of MS

Number of MSs

List of MS ID

The list of MS ID

14.5.9.1.7.1.8.3 When generated

This primitive is generated when the mobility management entity in NCMS decides that BS-initiated HO should be occurred because the BS is about to be overloaded.

14.5.9.1.7.1.8.4 Effect of receipt

The BS shall response to the scanning.request primitive using scanning.response primitive.

14.5.9.1.7.1.9 scanning.response

14.5.9.1.7.1.9.1 Function

This primitive is issued by the BS to respond to scanning.request

14.5.9.1.7.1.9.2 Semantics of the service primitive

The parameters of the primitive are as follow:

scanning.confirmation

(
 Number of MS,
 List of MS ID,
 List of Signal information
)

Number of MS

Number of MSs

List of MS ID

The list of MS ID

List of Signal Information

This parameter includes channel measurement information. CQI value is used to indicate the channel quality. If MS doesn't support CQI CH, then the operational downlink burst profile can be used instead of CQI value. The signal quality of the neighbor BSs, which is gathered during scanning interval, is also included in this parameter per the requested MS.

14.5.9.1.7.1.9.3 When generated

This primitive is generated when the receives scanning.request

14.5.9.1.7.1.9.4 Effect of receipt

The mobility management entity in NCMS decides the specific MS and its potential target BS for BS-initiated HO based on the reported signal quality in the scanning.response primitive.

[Change the Figure 7 as indicated]

Figure 7 – Example Primitive Flow of HO initiated by BS