

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Routing path list TLV for MMR cell topology discovery	
Date Submitted	2006-11-07	
Source(s)	G.Q. Wang, Wen Tong, Peiying Zhu Hang Zhang, David Steer, Gamini Senarath, Derek Yu	Voice: 1-613-763-1315 [mailto:wentong@nortel.com]
	Nortel 3500 Carling Avenue Ottawa, Ontario K2H 8E9	
Re:	Proposal for adding path list TLV into RNG-REQ message	
Abstract	Discuss the IDcell usage for new node attachment in MMR cell	
Purpose	To make MMR-BS knowing which access RS the newly added node attached to.	
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 >.	

Routing Path List for MMR cell Topology

*G.Q. Wang, Wen Tong, Peiyong Zhu, Hang Zhang, Gamini Senarath,
David Steer, Derek Yu
Nortel*

1 Introduction

In multi-hop MMR network, in stead of directly attaching to MMR BS, a newly added node may select to attaché to a pre-existing access RS. After the initial ranging of the new node, a routing path should be formed from MMR BS to the pre-existing access RS for the new node (if such path does not exists before). This routing path is used to serve the rest of network entry process and the normal data relay operation.

This contribution suggests add a new routing path list TLV into RNG-REQ message. This routing path list is an array of IDcell (IDcell is defined in 802.16-2005), which was assigned to the RS along the created path. Routing path list is created dynamically from each access RS to MMR BS to help MMR BS effectively relay the data burst to the designated MS.

2 Path List TLV format

Routing path list is a variable size TLV with IDcell as list entities. In IEEE802.16-2005, IDcell is defined as 5-bit integer.

Along a newly created routing path, the RS would update routing path list by appending its IDcell into the list, and modify the length of list accordingly.

Name	Type	Length	Value
Path List	xxx	Variable	Compound

Syntax	Size	Notes
N_entry	8 bits	The number of entries in the list
For(j=0;j<N-entry;j++) {		
IDcell	8 bits	Bits 0-2 reserved Bits 3-7 IDcell
}		