Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>
Title	Routing path list TLV for MMR cell topology discovery
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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.
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Routing Path List for MMR cell Topology

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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
}		