Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**	
Title	Simplified Scanning Procedure	
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Source(s)	Hang Zhang, Mo-Han Fong, Peiying Zhu, Wen Tong Nortel Networks 3500 Carling Avenue, Ottawa Ontario, Canada K2H 8E9	mhfong@nortelnetworks.com Voice: +1-613-765-8983 Fax: +1-613-765-6717
Re:	IEEE P802.16e/D3-2004	
Abstract	In this contribution, a mechanism to simplify scanning procedure is proposed	
Purpose	Review and Adopt the suggested changes into P802.16e/D3	
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1 Introduction

In the IEEE802.16e/D3 text, a MSS initiated HO includes following steps:

- The MSS monitors MOB_NBR_ADV message
- The MSS may scan neighbor BSs
- Serving BS informs those potential target BSs indicated in MOB_MSSHO_REQ message by using HO-pre-notification
- The BSs who received a HO-pre-notification request shall reply HO-pre-notification response, which shall include ACK or NACK of a potential HO. With an ACK response, the QoS level and estimated BW are indicated.
- The serving BS may select one or more potential target BSs which acked the HO-pre-notification request and inform the MSS through MOB_BSHO_RSP message
- MSS then sends MOB_HO_IND message to start the HO to the selected target BS

The above procedure can be simplified if the serving BS can acquire information such as available radio resource and service level supportable from its neighbor BSs and broadcast this information in MOB_NBR_ADV. A MSS only need to scan those BSs which can provide the acceptable BW and QoS level. In this way, some unnecessary scanning and association can be avoided.

2 Proposed Text Change

The proposed text change is based on IEEE802.16e/D3.

6.3.2.3.50 Neighbor Advertisement (MOB-NBR-ADV) message

[…]

Table 92d – MOB-NBR-ADV Message Format

Syntax	**Size**	**Notes**
MOB-NBR-ADV_Message_Format () {		
Management Message Type = 49	8 bits	
Operator_ID	24 bits	Unique ID assigned to the operator
N_NEIGHBORS	8 bits	Neighbor BSs excluding BSs declared in SHO_Neighbor for loop
For (I = 0; i < N_NEIGHBORS;i++) {		
Neighbor BS-ID	48 bits	
DL Physical Frequency	32 bits	
Configuration Change Count	8 bits	Incremented each time the information for the associated neighbor BS has changed
Available radio resource	8 bits	Percentage of available subchannels and symbols resource per frame 0000: 0% 0001: 20% 0010: 40% 0011: 60% 0100: 80% 0101: 100% 0110-1111: reserved

Service level supported	4 bits	Bitmap to indicate if a particular service can be supported: bit 0: Unsolicited Grant Service (UGS) bit 1: Real-time Polling Service (rtPS) bit 2: Non-real-time Polling service (nrtPS) bit 3: Best Effort A '1' indicates support. A '0' indicates not support
TLV Encoded Neighbor information	variable	TLV specific
}		
HMAC Tuple	21 bytes	
}		

[…….]