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Abstract	
Purpose	This document proposes “Cell Type” TLV broadcast for mobility optimization
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Cell Type broadcast for mobility optimization

1 Introduction

In typical mobile cellular system deployments (2G/3G or WiMAX), hierarchical cell structures are used in order to support tradeoff of mobility and capacity requirements of mobile devices. An example of such hierarchical cellular design is shown in the figure below (this is a simplification for illustration purposes – please note that real cell coverage overlaps).

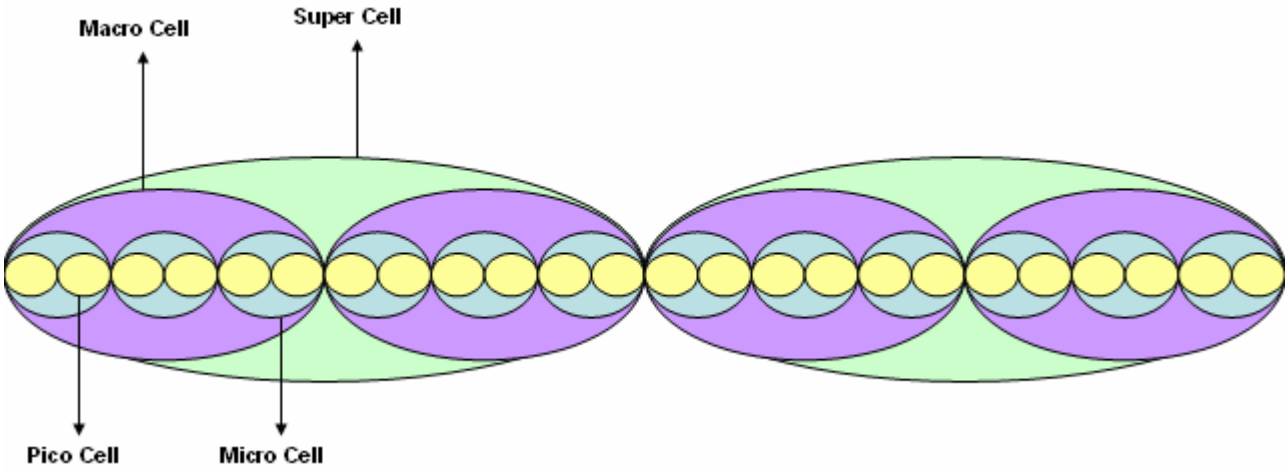

Figure-1: Hierarchical Cell Deployments

The smaller cells are better for low mobility and high data rate capacities whereas the larger cells are more suitable for high mobility and lower data rates. In order to reduce the handoff frequency and achieve optimal data rate for the user applications, it is required to identify the cell types prior to handoff. Handoff procedure entail significant amount of signaling and imposes service interrupts and potential packet loss. For example, if the user is moving fast, the mobile device should handoff to a larger cell in order to reduce the handoff frequency and associated handoff signaling and service disruption.

2 Proposed Text Changes

In P802.16g/D8, in 11.4.1 DCD channel encoding, page 32, in Table 358, insert new row into table as:

Name	Type (1 byte)	Length	Value (variable length)	PHY scope
Cell Type TLV	57	1	Cell type TLV may be used by the MS in the network entry/re-entry and handoff decisions. Selection of value for Cell Type is implementation specific. 0 – 15: "0" represents the smallest cell, and "15" represents the largest cell. 16 – 255: reserved	All