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Re:	Call for comments
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).

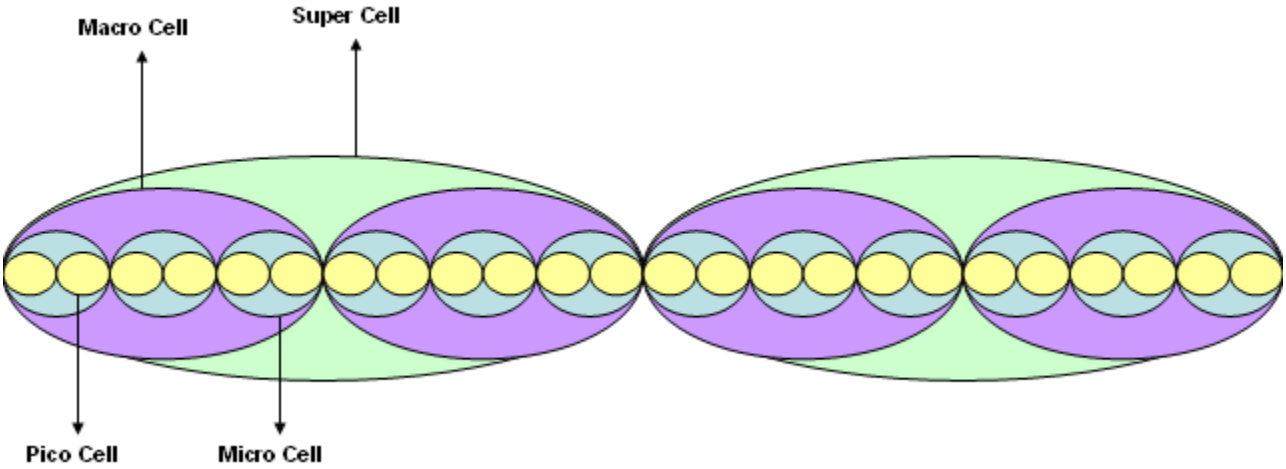

Figure-1: Hierarchical Cell Deployments

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

6.3.2.3.47 Neighbor Advertisement (MOB_NBR-ADV) message

For each advertised Neighbor BS, the following TLV parameters may be included:

[Insert the following text:]

Cell Type (see 11.18.4)

11.18 MOB_NBR-ADV management message encodings

[Insert the following text:]

11.18.4 Cell Type

In typical mobile cellular system deployments, hierarchical cell structures are used in order to support tradeoff of mobility and capacity requirements of mobile devices. 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. Cell type TLV can be used by the MS in the handoff decision algorithm, in order to pick a cell that can reduce the number of handoffs, and achieve optimal data rate for the user applications.

Type	Length	Value	Scope
56	*1*	0 – 15: "0" represents the smallest cell, and "15" represents the largest cell. 16 – 255: *reserved*	MOB_NBR_ADV, DCD