

Financial Benefit Analysis of Macro-Femto Network Structures Based on TCO Approach

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Abstract— Mobile Network Operators (MNO) are nowadays facing an exponential growth in their network traffic, as more and more customers are having access to affordable new technologies using smarter and data-based equipments. As new strategies have to be developed and implemented in order to meet those demands in a cost efficient way, the offloading one, with using an alternative network to the macrocell cell network, has been under ongoing discussions and studies. More specifically, the femtocell offloading alternative has been pointed out as a potential cost effective solution regarding many advantageous specificities related to this technology like the the small size and ease of installation, making it easier to deploy than the macro one. In this paper, we will assess the relative costs benefits resulting from deploying the femtocell network, using the Total Cost of Ownership (TCO) as an economical method to have more accurate and up-to-date results regarding those potential benefits. Cost analysis will be performed based on our base case scenario, and discussions on possible future extensions of this work are presented.

Keywords—Macrocell Network, Femtocell Network, TCO, DCF, Financial Benefits, Cost Analysis



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